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ABSTRACT

A new conceptual framework for comparative analysis of distance higher education systems, called the Systems Analysis, Typology and Shaping Mechanism (SATS), was used to compare the structures and functions of the DE systems of Australia (which includes external studies and open learning components) and China (which includes correspondence education and radio and TV university education components). The SATS is designed to enable researchers to analyze individual DE systems in contextual and internal dimensions at three levels (national, institutional, and learning group) and in terms of two major subsystems (administration and operation) and to examine the endogenous and exogenous links and interrelationships thereof for each system. The comparative analysis confirmed that, although both the Australian and Chinese systems of DE have been strongly influenced by the model of DE exemplified by the British Open University, each country's DE system has also been profoundly influenced by its unique needs and histories, including its level of industrial development (which is examined in terms of Fordist and neo-Fordist models). The analysis also confirmed the SATS framework's usefulness in comparing different DE systems. (Thirty-nine tables/figures are included. Contains 261 references.) (MN)

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FernUniversität
Gesamthochschule in Hagen

ZIFF PAPIERE 112

Xingfu Ding

A Comparative Study of Distance Higher Education Systems in Australia and China

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PREFACE

3rd July 1998

It is really a great honour for me to publish my PhD thesis in Zentrales Institut für Fernstudienforschung, FernUniversität, Germany. In the past decades, ZIFF has made a significant contribution to the development of research and theory in distance education. Many distance educators come from various parts of the world once supported by ZIFF in their carrier have now become well-known scholars. I do hope that the publication of my PhD thesis will promote mutual understanding and academic exchange of distance education between China and Germany specially, and the East and the West more generally.

It is a hard work for me to cut the Thesis from 348 pages down to 200 pages. The goal set up by myself for converting work is to keep the overall picture and original feature of the Thesis as possible. That is, first this short version of the Thesis should remain as a cross-national comparative study of distance higher education systems in Australia and China with reference to the mainstream paradigm represented by the UKOU, and the study is conducted based on a newly formulated framework for both conceptual and methodological purposes. Secondly, those chapters and sections on Chinese system (Chapter 4, Section 7.2, 8.2, and 9.2) should remain as complete as possible. The main text of the Thesis was completed in December 1996 and has been kept unchanged in this short version. What I have done on the Thesis is to squeeze it only but not to rewrite and update it (There are merely two tables updated for showing the new statistics). I am quite sure that the Thesis will provide you with an unique chance to understand Chinese perspective and experiences of distance higher education better and deeper. Please feel free to contact me if you would access to the original version of the Thesis and any other publications of mine.

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ABSTRACT

In many nations, including Australia and China, distance higher education has recently taken on a new and greater significance. New technologies and the seemingly ever increasing demand for improved access suggest that its growth in importance is likely to continue in the coming century.

The Open University of the United Kingdom has been acknowledged worldwide as exemplifying the mainstream model, however, for a range of socio-political, economic and cultural reasons the Australian and the Chinese systems are very different. This thesis is a study of the distance higher education systems, policies and practices of Australia and China with particular reference to their similarities and differences from the mainstream model.

In Part I, a new conceptual framework for the comparative study of higher distance education systems is developed. The framework comprises three propositions of systems analysis, typology and shaping mechanism and provides the theoretical and methodological foundation for the remainder of the thesis.

In Part II, the characteristics of both systems, their structure and function at three levels - macro level ie. the national system, median level ie. the institutions with two major subsystems of administration and operation, and micro level ie. the learning group are described. Differences and similarities with reference to the mainstream model are explored.

In Part III, an analysis of certain contemporary critical issues grounded in the interrelationships between endogenous and exogenous features of distance higher education systems is presented. These critical issues relate to (a) the industrialised conceptualisation of distance education, (b) features of administrative and operational organisation, and (c) distance teaching and learning practices. This analysis allows for an exploration of how various systems of distance higher education across the globe are influencing and interacting with each other.

The conclusion provides a summary, a substantiation of the systems shaping mechanism based on this study, and addresses future options for distance higher education in both nations.

ACKNOWLEDGMENTS

I am indebted to many people whose ideas, assistance and support contributed to this thesis. The works of Dr. Desmond Keegan (Distance Education International Ltd, Dublin, Ireland), Dr. Otto Peters (FernUniversitat, Hagen, Germany), Dr. Borje Holmberg (Lomma, Sweden), and Mr. Greville Rumble (Open University, Milton Keynes, the UK) all provided both the catalyst and a constant source of reference. Special thanks should be given to Mr. Patrick Guiton who invited me to visit Murdoch University in 1991-92. This visit was the direct catalyst for this PhD thesis. As principal supervisor, Dr. Mick Campion provided invaluable advice and critical comment during the conduct of the research and the preparation of the thesis. His work on general research and theoretical conception, especially on the policy and practice of Australia's distance higher education offered me a significant chance to better understand the Australian system and its distinctiveness. The assistance of Dr Simone Volet as associate supervisor and her constantly helpful comments are also gratefully acknowledged. In addition, I would give my great thanks to several pioneers of China's radio and TV universities education. Madam Zhang Qunyu and Professor Wang Zunhua introduced me to China's distance education system and Professor Xie Xinguang, former Chancellor of Central Radio and TV University encouraged me in this research and in the completion of this thesis.

Confucius said: "Do not leave home far away while your father and mother are living". I lost my mother, Gu Zhongen during my first visit to Australia (1991) and left my father, Ren Yifa home in China for over four years. To my both parents, the biggest debt is owed forever. Several other family members contributed significantly, perhaps without realising. During the course of this work, my wife Feng Jie and youngest daughter Ding Jia accompanied me in Australia and showed their continuing understanding, support and encouragement. My eldest daughter Ding Zhe had to live and study independently in China in difficult circumstances. Last but not least important, my younger brother Ren Zhiyuan took responsibility for looking after our father in China.

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Australian Sector

ABC	Australian Broadcasting Corporation
ABSTUDY	The special assistance program for aboriginal students in higher education
ACDP	Australian Committee of Directors and Principals in Advanced Education
AGPS	Australian Government Publishing Service
AIDAB	Australian International Development Assistance Bureau (now AusAID)
AIEF	Australian International Education Foundation
ASPESA	Australian and South Pacific External Studies Association
AusAID	Australian International Development Assistance Bureau (former AIDAB)
AUSTUDY	New name of the assistance program for higher education students since 1987 (fomer TEAS: Tertiary Education Assistance Scheme)
AVCC	Australian Vice-Chancellors Committee
CAE	College of Advanced Education
CGA	Commonwealth Government of Australia
CTEC	Commonwealth Tertiary Education Commission
DEC	Distance Education Centre
DEET	Department of Employment, Education and Training
EFTSU	Equivalent Full Time Student Units
EIP	Evaluations and Investigations Program
ES	External Study/Studies
FAUC	Federal Australian Universities Commission
HECS	Higher Education Contribution Scheme
HED	Higher Education Division
IDP	International Development Program, Education Australia
IT	Institute of Technology
NBEET	National Board of Employment, Education, and Training
NDEC	National Distance Education Conference
ODLAA	Open and Distance Learning Association of Australia
OL	Open Learning
OLA	Open Learning Australia, a short name for OLAA
OLAA	Open Learning Agency of Australia Pty. Lid.
OLESS	Open Learning Electronic Support Service (now Open Net)
OLI	Open Learning Initiative
OLTC	Open Learning Technology Corporation Limited
PAGE	Professional and Graduate Education Consortium
PCA	The Parliament of The Commonwealth Australia
SBS	Special Broadcasting Service
SCES	Standing Committee on External Studies
TAFE	Technical and Further Education
TVOL	The First TV Open Learning Project
UNS	the Unified National System
WA	Western Australia
WEDAC	Western Australian Distance Education Consortium

Chinese Sector

3DHE	Third Department of Higher Education, SEdC
AEC	Adult Education College Continuing Education Colleges (CECs)
AED	Adult Education Department, SEdC
AHEI	Adult Higher Education Institution
ARR	Average Recipient Ratio
BS	Branch Schools
BTVU	Beijing TV Univeresity
CC	Correspondence College
CCl	Correspondence Class
CCTV	China Central Television
CD	Correspondence Division
CEC	Continuing Education College
CETV	Chinese Educational Television
CPC	Communist Party of China
CRTVU	Central Radio and TV University
CS	Correspondence School
CTVTTI	China's TV Teacher Training Institute
CWS	Correspondence Work Station
DF	Department of Finance, SEdC
DPC	Department of Planning and Construction, SEdC
EE	Electrification Education
EHIs	Examinations Holder Institutions
FLV	Free Listener-Viewer
FRU	Formal Registered Undergraduate for full courses
CHE	Correspondence Higher Education
ICC	Independent Correspondence College
ME	Ministry of Education, SC (now SEdC)
NGC	National Guidance Committee
NUE	National Unified Examination
NUEE	National Unified Entrance Examination
PGC	Provincial Guidance Committee
PRC	People's Republic of China, New China, New Republic
PRTVU	Provincial Radio and TV University
PUC	People's University of China
RHEI	Regular Higher Education Institution
RTVHE	Radio and TV Higher Education
RTVU	Radio and TV University
RTVUE	Radio and TV University Education
SC	State Council, the China's Central Government
SCS	Single Course Student
SEdC	State Education Commission, SC (former ME)
SEHEIS	State Administered Examinations of Higher Education for Independent Study
STVE	Satellite TV Education
STVTT	Satellite TV Teacher Training
TRS	Teaching and Research Section
TVCl	TV Class
WS	Work Station

General Sector

AAOU	Asian Association of Open Universities
ADB	Asian Development Bank
BA	Bachelor of Arts
CADE	Canadian Association for Distance Education
CBU	Campus Based University
CCHE	The Carnegie Commission on Higher Education (the US)
DTU	Distance Teaching University
EADTU	European Association of Distance Teaching Universities
DHE	Distance Higher Education
ICCE	International Council for Correspondence Education (now ICDE)
IBE	International Bureau of Education, UNESCO
ICDE	International Council for Distance Education (former ICCE, UNESCO)
ICDL	International Centre for Distance Learning, the UKOU)
IET	Institute of Educational Technology, the UKOU
MBA	Master of Business Administration
NA	Not Available
NTU	The National Technological University (the US)
NUCEA	The National University Continuing Education Association (the US)
NUTN	The National University Teleconference Network (the US)
OU/UKOU	The Open University (the UK)
PhD	Doctor of Philosophy
SATS	A Systems Analysis, Typology and Shaping Mechanism Framework
UK	The United Kindom
UNESCO	United Nations Educational, Scientific and Cultural Organisation
UNISA	The University of South Africa (the South Africa)
US/USA	The United States of America
USSR	Union of Soviet Socialist Republics
WB	World Bank
ZIFF	Zentrales Institut für Fernstudienforschung, FernUniversität (Germany)

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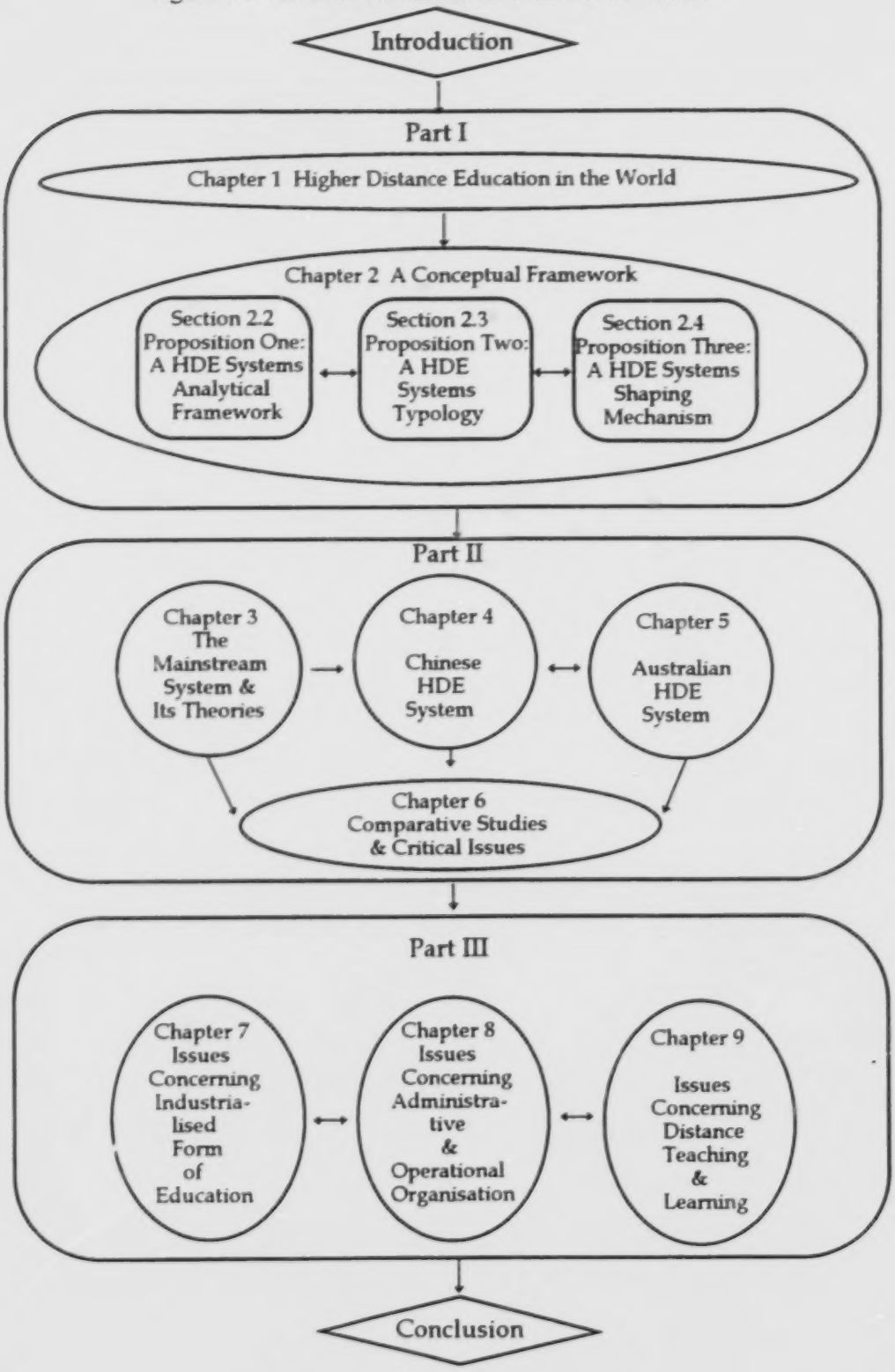
THE STRUCTURE OF THE THESIS

Figure 0.1 An Overview of the Structure of the Thesis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INTRODUCTION

The INTRODUCTION contained 16 pages (pp. 1-16) with 5,282 words originally

Distance Higher Education in Practice

Distance education today is the product of a continuous development that started well over a century ago (Holmberg 1986a: 141). During the decades of the 1970s and 1980s, a significant number of autonomous distance teaching universities has been established in both developed and developing countries. These have been conceptualised and analysed using the mainstream model of distance higher education in this thesis. However, over the same period there has been a dramatic increase in the number of courses and places available to conventional university and college sponsored distance education providers in France, Germany, the USA, Canada, Sweden, New Zealand and Australia, and also in the former USSR and China. UNESCO statistics (Dieuzeide 1985) show that 600 million young people and adults study today in conventional schools, colleges and universities. In addition there are 10 million who study at a distance. One third of these are in the former USSR and China. The 10 million distance education students are to be found in nearly every country of the world today. There is a farrago of provision ranging from tiny schools of the air in outback Australia to vast distance teaching universities in China and Thailand (Keegan 1989a: 169).

In China, there are three parallel systems of distance higher education provision: the conventional university and college sponsored correspondence teaching system with several independent correspondence colleges and institutes, the national radio and television higher education system and the state administered examinations system for higher education. In Australia, almost the only form of distance higher education is the conventional university sponsored external studies and open learning.

In spite of the attention paid the autonomous distance teaching universities since the 1970s, distance education is not a recent phenomenon. In many ways the story could be traced back to the middle of the last century. The External Degree System of the University of London dating from 1858 was one of the origins of distance higher education worldwide. In the second half of the 19th century and the beginning of the 20th century, university and college sponsored external studies and correspondence teaching has been expanding and spreading to many countries across the globe. Australia is one of the nations with a long history of correspondence higher education. The Act establishing the University of Queensland in Brisbane in 1909 first made provision for the teaching of university level courses by correspondence. After nearly a century's development, Australian distance higher education has formed a unique system known as the Australian integrated model or New England model of external studies which has influenced other countries.

In addition, in spite of the attention paid to the UK Open University which was founded in 1969 and first delivered its courses in 1971, autonomous and exclusive distance teaching institutions at university level existed elsewhere before the end of the 1960s. For example, several Chinese Metropolitan Radio and/or TV Universities in Beijing, Shanghai, Shenyang, Guangzhou and Harbin were set up at the beginning of 1960s. Unfortunately all of them were interrupted by the Cultural Revolution (1966-1976). Since 1979, a national distance higher education system of Radio and TV Universities (RTVUs) with the Central Radio and TV University (CRTVU) based in Beijing as its centre has been developed rapidly. In its practice, China's RTVUs system has formed an unique model. A national hierarchical multi-bodied system with five layers organised around group based learning using substantial broadcasting and face-to-face tutorials.

Distance Higher Education in Research

It is clear that distance education was little known and little studied twenty years ago. Since the 1970s the expansion of distance education practice has led to a growth in distance education research and to increasing theoretical maturity. This is evident from the growth of international, regional and national professional organisations and their activities, and a growing body of researchers and publications. Distance education is also taught by universities as a separate discipline. Following developments of this kind, Holmberg declared that a discipline has been established both in research and university teaching (Holmberg 1986b: 28, 1989b: 222-3).

The following is an incomplete list of research areas covered by Distance Education as a discipline:

- basic concepts and principles of distance education;
- philosophy and theory of distance education;
- system analysis and design;
- organisation, administration and management;
- policy-making and evaluation;
- economics;
- distance education and socio-economic development;
- educational technologies and media;
- course development and delivery and instructional design;
- learning support services;
- communication and interaction between students and supporting organisation;
- distance teaching and academics' professional development;
- distance learning and learner bodies;
- subject-matter presentation in distance education;
- history of distance education.
- comparative distance education.

Comparative distance education is a branch of learning and a cross-disciplinary field of distance education and comparative education study. There have been some pioneering comparative studies of distance higher education systems, and these studies have built up some essential foundations for further comparative study including this thesis.

Aims and Objectives

Aims

This research is expected to benefit policy-making, theoretical research and practice in systems' analysis, development and innovation in both Australia and China. It has the following three key interlinked aims:

* to provide a systematic analysis and comparative study of the structure and function of the distance higher education systems of both Australia and China, to promote mutual understanding and sharing of experiences and perceptions and better international recognition of their unique characteristics and contributions to the worldwide picture of distance higher education.

* to conduct a cross-national comparative study of the critical issues of the distance higher education systems in Australia and China with reference to the mainstream model, and an inquiry into various endogenous features within the systems and exogenous links between the systems and their educational and societal contexts in order to interpret these systems' fundamental characteristics and models of structure and function; to examine the interactions between various distance higher education systems across the globe; and to make a contribution to formulating a new conceptual framework for comparative distance higher education.

* to offer comments and suggestions on recent changes and possible further development in the future of distance higher education in both countries based on this comparative study.

Objectives

The following objectives are designed to achieve the general aims:

* to formulate a new conceptual framework for the comparative study of distance higher education systems. The framework consists of three interlinked propositions:

Proposition 1 - a DHE systems analytical framework;
Proposition 2 - a DHE systems typology; and
Proposition 3 - a DHE systems shaping mechanism.

* to identify the mainstream system of distance higher education in the world represented by the UK Open University and other autonomous distance teaching institutions and summarise the main points of the mainstream theories in the literature on distance education.

* to provide a systematic analysis and a comparative study of Australian and Chinese distance higher education systems.

* to explore the critical issues of distance higher education systems in Australia and China with reference to the mainstream system in the world. These critical issues include:
  - industrialised conceptualisation;
  - administrative and operational organisation;
  - distance teaching and learning.

* to justify and substantiate the formulated conceptual framework for the comparative study of distance higher education systems, especially the systems shaping mechanism by using the outcomes of this cross-national study between Australia and China with reference to the mainstream model.

* to examine the future options faced by both Australian and Chinese distance higher education systems for the early 21st century based on this comparative analysis.

These main objectives of the thesis; the relationship between the conceptual framework for comparative study and a cross-national study of distance higher education systems in Australia and China with reference to the mainstream model can be seen in Figure 0.1.

One significant outcome of this thesis is the fact that it will introduce China's distance education system to English speaking readers, because there is little literature about China's distance education in English. Given its size and strengths the Chinese system deserves to be known outside China, but its unique and complex characteristics have made it difficult for Westerners to understand.

Theory and Methodology

By its very nature, the comparative study of distance higher education systems is a multi-dimensional and cross-disciplinary enterprise.

Theory

As mentioned in the preceding section, distance education research and theory has come of age and become a discipline during the past two decades. Comparative study of distance higher education as a major branch of distance education has also developed rapidly and achieved some

important results. This thesis is certainly established on the achievements in distance education research and theory.

Today, any study field of humanities like education should use a cross-disciplinary (or multi-disciplinary) perspective. Allowing for the nature of this comparative study of distance higher education systems, those disciplines of systems, social, behavioural and psychological sciences concerning various societies, institutions and individuals are mostly referred to. Several specific theories and conceptions which have special relevance to this thesis in formulating a new conceptual framework and in the cross-national comparative study of distance higher education systems are now listed.

* The conception of distance education, open learning and their relationship provides a base for clarifying the study field.
* Systems theory, organisation theory, structure-functionalism in sociology, and some pioneering works in systems analysis and design of distance education institutions establish a foundation for formulating a new analytical framework for the comparative study of distance higher education systems, and their structure and function.
* Various pioneering typologies of distance higher education institutions form a base for developing a new typology system.
* Comparative education, comparative sociology and some pioneering works in distance education and international comparative studies of distance higher education systems all provide some helpful references to developing a systems shaping mechanism for investigating the systems' endogenous and exogenous links and their interrelationships.
* Industrialisation theory and the Fordist/neo-Fordist/post-Fordist conceptual framework of distance education, the conceptual appraisal of the mainstream system focusing on its competitive and strategic advantages in system's structure and function, and the variously theorised frameworks of distance teaching and learning provide a base for the debates on critical issues in the cross-national comparative study of both systems in Australia and China with reference to the mainstream system.

Methodology

Some well known methodologies for comparative education study have been used throughout the thesis. They are mainly as follows:

- literature survey and critical review;
- development of arguments and debates;
- multi-dimensional and cross-disciplinary study;
- historical study;
- case study;
- various statistical methods;

An overall feature of the methodology of this thesis is its three step structure:

1. to formulate a new conceptual framework for the comparative study;
2. to conduct a systems analysis and a cross-national comparative study of critical issues based on the newly developed framework;
3. to justify and substantiate the framework by using the outcomes of the systems analysis and comparative study.

The thesis has been designed to draw upon its author's previous experiences within the Chinese distance higher education system and the observation during his two visits to Australia, and his publications [2]. The followings eight recent publications of the author have been incorporated into this thesis:

* Ding, X. (1993) A Visiting Report on Australian Distance Education. *Modern Distance Education*, 1993 (1): 65-70, Harbin.
* Ding, X. (1994a) Economic analysis of Radio and TV Universities Education in China. A paper presented at the VIIth Annual Conference of the Asian Association of Open Universities, in Hong Kong between 21 and 24, November, 1993, published in Dhanarajan, G. et al (eds) *Economics of Distance Education: Recent Experience*. Open Learning Institute Press, Hong Kong, Chapter 13, pp. 157-70.
* Ding, X. (1994b) Economic analysis of the Radio and Television Universities in China. *Open Praxis*, the Bulletin of the ICDE, 1994 (2): 14-21.
* Ding, X. (1994c) China's distance higher education - Its four systems and their structural characteristics at three levels. *Distance Education*, 15 (2): 327-346.
* Ding, X. (1994d) Information superhighway, interactive multimedia, and distance education. *Modern Distance Education*, 1994 (3): 77-80.
* Ding, X. (1995a) From Fordism to Neo-Fordism: Industrialisation Theory and Distance Education - A Chinese Perspective. *Distance Education*, 16 (2): 217-240.
* Ding, X. (1995b) China's Distance Higher Education - Its System, Structure and Administration. A paper presented at the VIIIth Annual Conference of the Asian Association of Open Universities, in New Delhi, 20-22 February, 1995. *Conference Papers* Vol. 1, pp. 260-274.
* Ding, X. (1996) Three Debates but One Focus - A Future Option for Distance Education and Open Learning and Implications for Research: A Chinese Perspective. A conference paper presented in RIDE '96, Deakin University, Geelong.

Structure of the thesis

Notes

[1] Subsequent to the submission of this thesis and as a consequence of the examination process I have had access to Prof. McCormick's PhD thesis entitled "Distance Higher Education in The

People's Republic of China" (1992). An intensive reading of McCormick's thesis indicates that we each make independent contributions to international research on distance higher education, especially in relation to the Chinese systems. As McCormick pointed out in the Introduction of his thesis:

> The two different perspectives on distance education in China, the national and the international come together to make its study of interest not only to people in China, but also to those outside. For those of us outside China it is important to understand how policies and practices unique to the Chinese context affect the development of distance education. Only a few reviews of distance education systems pay sufficient heed to the specific context of countries in which they exist (...). A study of distance learning systems in the context of a particular country is therefore important to understanding such systems. For those inside China the purpose is to bring an outside perspective to bear, while trying to understand the particular situation in China. Although there is an increasing literature on distance education within China, there are as yet few major studies of the systems using the ideas both of educational theory, policy and practice in China and distance education theory and practice.
>
> McCormick 1992: 2

Both McCormick's and my PhD theses have contributed to this direction of research. In addition these works have distinctive features. McCormick's work has shown that he is successful in increasing the understanding of China's distance education systems from outside. My work is a comparative study. As an insider of China's system, I constructed a different task for myself quite distinctive from that of McCormick. The theme of my PhD thesis is a cross-national comparative study of distance higher education systems, mainly between Australia, China and the mainstream. In addition, due to the space limitation, my thesis treats China's RTVU education but not correspondence education and state administered examinations of higher education for independent study as the main representative of China's provision of distance higher education. This cross-national comparative study is based on a newly formulated conceptual and methodological framework consisting of three propositions of systems analysis, typology and shaping mechanism. It is mainly a literature based research work. The purpose of this exploration is to show how the characteristics and models of the structure and functions of the distance higher education systems in Australia and China can be interpreted by examination of the endogenous and exogenous links of the systems and their interactions within their national context and international environment. I am quite sure that my thesis is a pioneering work in this important field from inside of China.

[2] Following is a brief description of the author's personal experiences:

The author of this thesis was first involved in distance education in early 1981. There was a series of seminars on distance education, held in Beijing, sponsored by the CRTVU when the organisers, Madam Qunyu Zhang (Vice-President) and Professor Zunhua Wang (Head of Academic Affairs) invited the author to join the CRTVU for its great adventure. A year later, when the author returned to China from the International Centre for Theoretical Physics, Triest, Italy, he changed his employment from the Beijing University to the CRTVU. Since then, he have been worked in the CRTVU for over 10 years. First the author worked as a lecturer in theoretical physics. He taught classical and modern physics by presenting TV programs which were transmitted throughout China, and had thousands of school teachers as his students. He thus has had some experiences in distance

teaching and learning, especially in the design and development of multi-media course materials. The author became Vice-Director (April, 1985), then Director (October, 1990) of Distance Education Institute of the CRTVU and Associate Professor in Distance Higher Education (December 1988). He has received several research awards and scholarships from Chinese, overseas and international institutions and organisations, and has published a dozen books and many papers on distance education, educational evaluation, educational technology, educational economics, educational administration and policy-making, comparative study of distance educational systems, China's higher education and adult education and so on. In addition, the author has been an active consultant, adviser and rapporteur of distance education in China to the State Education Commission and the CRTVU, and a chief organiser, reporter, plenary speaker or participant at many international and national conferences, workshops and seminars. In this way the author has had great opportunities for overseas visits (Japan, Canada, Australia, Hong Kong etc.), academic exchange and cooperative research with foreign distance educators and researchers.

A significant experience for the author has been visiting Australia twice. From October 1991 to July 1992, the author got his first chance to visit Australia as a visiting fellow at Murdoch University (External Studies Unit) and Curtin University of Technology (the National Science and Mathematics Education Centre). He presented several seminars on China's distance education, including one entitled 'Economic Analysis of Distance Education' at the University of Southern Queensland, Toowoomba. He was also involved in external studies at Murdoch University by doing part-time external marking in physics courses. He attended the First Symposium on Interactive Multimedia held in Perth, December, 1991, sponsored by Curtin University and conducted a pilot project of computer assisted instruction in the course 'Quantum Theory' in Murdoch University. Since July 1993, The author has been a PhD candidate at Murdoch University with scholarships from the Australian Government and Murdoch University. During his visiting, the author has observed the systems and recent changes in Australian distance education and open learning, from Government policies to institutional responses and the practical implications for academics and learners. Also he has paid attention to the continuing debate on policies and theories of distance education and open learning within Australian context and worldwide.

These personal experiences have enabled him to use an international perspective in conducting a comparative study of distance higher education systems in Australia and China.

Part I

A Newly Formulated Conceptual Framework for The Comparative Study of Distance Higher Education

Introduction

Part I has two chapters. It provides the background information for distance higher education study upon which the thesis is built, and formulates a new conceptual framework for the comparative study of distance higher education systems which forms the theoretical and methodological foundation of this thesis.

Chapter 1

The Chapter 1 contained 21 pages (pp. 18-38) with 7,031 words originally

Distance Higher Education in the World

Introduction

This chapter consists of two sections. Section 1.1 examines the development of distance higher education in practice and research, while Section 1.2 reviews the definitions and characteristics of distance education, open learning and other basic concepts.

It is shown that distance education as a newly developing form of education is still an institutionalised form of education including both aspects of distance teaching and distance learning. Distance education is different from not only the conventional campus-based face-to-face education, but also from informal learning in everyday-life and self-programmed private learning. Informal and/or private learning occurs based on a wide variety of social environments and instructional media but without the systematic supervision and assessment from supporting institutions or organisations. In most cases of institutionalised education, supporting organisations are some kinds of educational institutions or systems. This thesis will concentrate on a comparative study of these supporting institutions or systems. In addition, the concept open learning and its relationship to the key concepts of distance education are also reviewed. It is shown that by its inherent nature, distance education system has some features of openness, consequently in some cases, the terms of distance education and open learning, open and distance education, and distance and open learning are used in this thesis.

Section 1.1

Development of Distance Higher Education in Practice and Research

This section provides a brief examination of the global development of the practice, research and theory of distance higher education over more than a hundred years.

Distance higher education in practice

The origins of distance education can be traced back to the middle of the nineteenth century. A number of publications have examined the origins and early developments of distance education in the world, particularly in Western countries. In 'Distance Teaching at University Level' (1982) Keegan and Rumble pointed out:

> In spite of the attention paid the DTUs in the 1970s, distance education is not a recent phenomenon. Programs using distance teaching methods have existed at further education level (technical and vocationally-orientated courses) for 130 years and at higher education level (university and university-orientated college courses) for 100 years.
>
> Keegan and Rumble 1982a: 15

It has been widely accepted that the first correspondence program started in the United Kingdom in 1840 by Isaac Pitman to teach shorthand. In the years that followed, further correspondence schools and colleges were established by private individuals who were motivated by a mixture of altruism and commercial acumen. Rumble described the educational and social context of that period:

> It was made possible by the development of cheap and reliable postal services, improved printing, and the general advances in learning reflected in book publishing and newspapers, the foundation of libraries, and the development of charity schools, debating societies, the Sunday School movement, scientific clubs, workingmen's colleges and institutes, lyceums and chautauquas, all of which made the emergence of home study practicable as well as desirable.
>
> Rumble 1986: 42-43

The use of distance teaching methods for university-level education is a practice that goes back to the New University Movement and the University Extension Movement well over one hundred years ago. Concerning the New University Movement, Kaye wrote (also see Keegan & Rumble 1982a: 15-16):

> In Britain, its origins can partly be traced to the historical distinction between teaching and accreditation which was one of the key features of the Oxford and Cambridge system - the colleges taught, the University examined. Thus, when the University of London was established in 1836, it had no teaching functions, but merely registered and examined students, in the UK and overseas, for external degrees. Various private concerns, such as

> the University Correspondence College and Wolsey Hall, soon arose to provide correspondence tuition for students enrolled for London external degrees. This is one particular pattern of provision, and perhaps the earliest: correspondence tuition provided by an independent organisation for degrees awarded by a public university.
>
> Kaye 1981: 15

Concerning the University Extension Movement, Rumble and Keegan commented that:

> This concern dates back, in the United States of America, to the passing of the Morrill Act in 1862, the foundation of the Land Grant universities, and the beginnings of the idea of a university extension movement related to the notion that "the campus is the state". In England, the Extension Movement emerged in the 1870s, and by 1884 its leaders were pressing, unsuccessfully, for 'a part-time, non resident teaching university operating a system of academic credits".
>
> Rumble & Keegan 1982a: 9

Gradually, however, the concept of correspondence teaching for university level courses was accepted in many countries and became widespread around the world. In the second half of the 19th century and the beginning of the 20th century, university and college sponsored external studies and correspondence teaching expanded and spread to many countries. In the USA, the first university-sponsored correspondence programs were founded and organised by Illinois State University in 1874, the University of Chicago in 1891 and the University of Wisconsin in 1906. The University of The Cape of Good Hope was founded in 1873, which awarded degrees on the basis of study undertaken at one of eight colleges in South Africa (Renamed the University of South Africa in 1916). The University of New Zealand was established in the 1880s as an examining body which later sponsored extramural study (transferred to the newly named Massey University in 1963). In Canada, distance education at university level was initiated at Queen's University, in Kingston Ontario, in 1889. In Australia, the Act establishing the University of Queensland in Brisbane in 1909 made provision for the teaching of university level courses by correspondence. University level distance teaching in the former USSR has a history going back to 1926. Peters (1965: 105), surveying distance teaching at the university level in the early 1960s, identified eleven independent correspondence universities and colleges in the USSR. In addition there were many more correspondence students enrolled in hundreds of conventional universities and colleges. Similar forms of distance teaching at university level had been established in the former German Democratic Republic, Poland, Czechoslovakia and other socialist republics of central and eastern Europe after the Second World War. In China, the Chinese People's University (in 1952) and the Northeast Normal University (in 1953) commenced standard university-sponsored correspondence teaching. (refer to Keegan & Rumble 1982a: 15-24; Holmberg 1985a: 267, 1986a: 6-28, 1995a: 3-4, 1995b: 47-9; Rumble 1986: 42-46; Zang & Ding 1993: 30-1; Bell & Tight 1995.)

The major focus of the 1970s and 1980s in the development of higher distance education was the foundation of the open universities. Twenty years later, in 1993, Peters gave his comments on this historical turning point:

> During the last two decades the world of learning has seen and experienced the emergence of a new concept: teaching and learning at a distance. For more than a hundred years this special form of tuition had been the ignored and neglected step child of education - mainly under the label "correspondence study". It was something for deprived and yet ambitious people, for "learners at the back door" (Wedemeyer 1981). By and by it developed on the primary, secondary, post-secondary and even on the tertiary level in many disciplines and was provided both in the public and commercial sector: "Slowly it began to replace, supplement, extend or build upon learning acquired in traditional ways" (Wedemeyer). Then, seemingly all of a sudden, without any master plan or coordinating efforts distance education was recognised in many countries all over the world - a process which culminated in the establishment of 13 distance teaching universities within only twelve years from 1969 till 1981, that is in the United Kingdom, Spain, Iran (discontinued), Israel, Pakistan, the Federal Republic of Germany, Canada, Venezuela, Costa Rica, Thailand, China, Sri Lanka, and the Netherlands (Rumble & Harry 1982: 25). Since then there has been a definite continuation of this trend. New distance teaching universities were founded in India, Japan, and Indonesia. And in Bangladesh, France, Nigeria and Turkey there are plans to establish distance teaching universities as well (Shale 1987: 8).
>
> Peters 1993a: 28

The improvement of distance education in the 1970s was both qualitative and quantitative. It can be attributed to:

- the development of new communications technology;
- a growing sophistication in the use of printed materials;
- improved design of instructional materials;
- improved provision of support services for students studying at a distance; and
- the foundation in 1969 of the Open University (UK) at Milton Keynes and
- the subsequent foundation of a series of similar structures in both developed and developing countries.

Keegan, 1990a: 3

After the continuing development from the 1970s to the 1980s, distance education has emerged as a standard component of the provision of higher education in many national systems. UNESCO statistics (Dieuzeide 1985: 33-4) show that 10 million students, most of them adults, study at a distance, some in nearly every country of the world.

It should be emphasised here that there have been two main kinds of higher distance education provision. One is the conventional universities and colleges which offer higher distance education (eg. so-called external studies, external degree programs, correspondence teaching, extension education, and independent study etc.) and the other is the autonomous and exclusive distance teaching universities and colleges (eg. open universities, the universities of the air, universities at a

distance or tele-universities, correspondence, radio and television universities or broadcasting universities, open learning institutes and open learning agencies etc.). The first report on the index of institutions involved in distance learning, *The State of Distance-Learning Worldwide* (Perry 1984), sponsored by the ICDL of the United Nations University c/o The UK Open University commented:

> Among the institutions involved in distance-learning there are some which were founded primarily in order to make use of this method; there are many more which were originally created as conventional universities, colleges or schools and which later added on a unit which uses the distance-learning method.
>
> Perry 1984: 7

The Report included 304 institutions involved in distance-learning, among them, 124 institutions (41% of total) were founded for distance-learning primarily and 180 (59%) were founded as conventional institutions developing distance-learning. Such a significant development has continued in the 1990s:

> Distance education is an exciting new area of education which seems to have something to offer to almost everyone, ... Linked throughout its history to developments in communications technology, it has benefited from the rapid advances in the 1980s and early 1990s in electronic telecommunications. The 1980s also saw the foundations of the Asian distance teaching universities, many of which already have hundreds of thousands of students. In the 1990s a number of universities have begun to offer professional qualifications at degree level in distance education.
>
> Keegan 1993a: 1

After a continuing development in the past two and a half decades, distance education and open learning have grown in most countries of the world and at all levels of education. Some international and regional professional associations of distance education and open learning have been established [1]. A considerable body of literature on various distance education systems, institutions, projects and programs, and their practices and experiences have been published and there have been a number of specialised publications on the global development of distance education [2].

Distance higher education in research and theory

Though distance teaching already existed in the mid nineteenth century, the first theoretical analyses of it did not emerge until the 1950s and 1960s (Holmberg 1989b: 219-20; Keegan 1989b: 236-40, 1993a: 2-4).

During the 1970s and 1980s, when distance education experienced unprecedented development in all parts of the world, distance education research seemed to have come of age as well. This is particularly true since the end of the 1980s. It can be seen by observing a growing body of research

into distance education and a rapid expansion in the literature of distance education which hardly existed at all twenty years ago (Peters 1993: 28-9, Harry 1993: 210-23) [3]. In addition, since the 1980s, a number of universities have begun to offer professional qualifications at degree level in distance education as a separate discipline. A well-known example is a *Master of Distance Education* course offered by Deakin University and University of South Australia since the end 1980s. In his paper 'Perspectives of Research on distance Education' presented in the First International Symposium on Higher Distance Education, Beijing 1989, Holmberg claimed that "A discipline of distance eduction can thus by now be said to have been established both in research and university teaching." (Holmberg 1989b: 222-3). As early in 1986, Holmberg described the articulated structure of distance education discipline as comprising the following areas:

- Philosophy and theory of distance education
- Distance students, their milieu, conditions and study motivation
- Subject-matter presentation
- Communication and interaction between students and their supporting organisation (tutors, counsellors, administrators, other students)
- Administration and organisation
- Economics
- Systems (comparative distance education, typologies, evaluation etc.)
- History of distance education

Holmberg 1986b: 28

A similar commentary was offered by Keegan in his paper entitled 'Research on Distance Education in the West 1880-1990', presented in Beijing 1989 (refer to Keegan 1989b). A wealth of literature theorising distance education had developed by the end of the 1980s and the early 1990s. This marked the maturing of distance education as an academic discipline in its own right (Keegan 1993: 1-6, Holmberg 1995a: x, 207-13).

Section 1.2

Basic Concepts

Conventional education and distance education

In educational literature face-to-face, or contiguous institutionalised education has been regarded as the educational norm. Over two decades ago, Moore at the University of Wisconsin had found hundreds of references of the following type "the word instruction refers to the activity which takes place during schooling, and within the classroom setting" (Moore 1971). In distance education writing, one often finds the terms conventional education, face-to-face education, on-campus education, conventional, oral, group-based education etc. used to represent the normal form of the institutionalised education. An adequate description of normal on-campus education was given by Kaye and Rumble: "the term conventional education is applied to formal classroom-based instruction

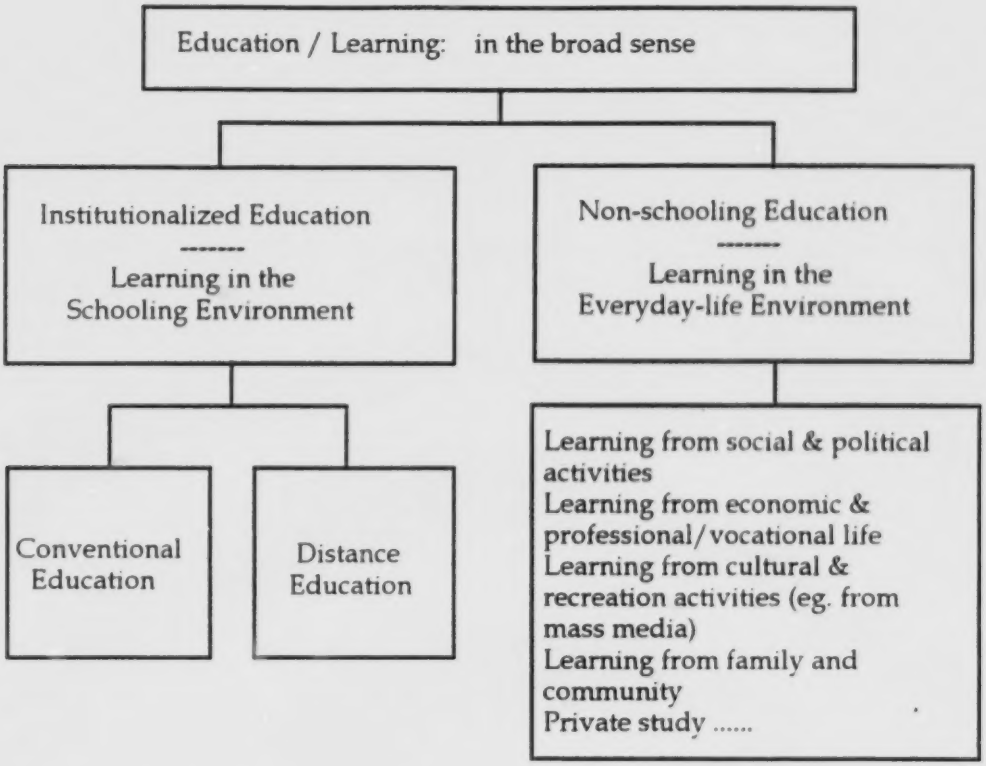
in a school, college or university setting, where teacher and students are physically present at the same time at the same place" (Kaye & Rumble 1979: 22). Accordingly, traditional pedagogy (the study and theory of education, teaching and learning) is mainly, if not entirely, grounded in and applied to conventional forms of education.

In 1977, Moore carried out an investigation of educational literature, and the result confirmed the finding that "more than 2,000 items of literature pertaining to educational programs in which learners were not in face-to-face relationships with teachers". Moore concluded: "Teaching consists of two families of activity with many characteristics in common, but different in one aspect so important that a theory explaining one cannot satisfactorily explain the other' (Moore 1977b: 5). Moore described his two families of educational activity as follows:

> The first of these families, the older, better understood, more fully researched, includes all educational situations where the teacher is physically contiguous with his [sic] students, so that the primary means of communication is his voice, and in which (to use the economists' terms) teaching is a 'service' that is 'consumed' simultaneously with its 'production'. The physical proximity of the learners with the teacher permits each to stimulate the other, consequently teaching of this kind is conceived as a process of 'social interaction'.
>
> The second family of teaching methods, and the subject of our concern, includes educational situations distinguished by the separation of the teacher from his [sic] learners, so that communication has to be facilitated by a mechanical or electronic medium. Teaching in this environment is 'consumed' at a time or place different from that at which it is 'produced', and to reach the learner it must be contained, transported, stored and delivered. There may be interaction, between learner and teacher, but if so, it is so greatly affected by the delay resulting from the necessity to communicate across distance or time, that is it cannot be an assured component of teaching strategy, as it may in classroom or group teaching. We refer to this as Distance Teaching, to distinguish it from 'contiguous teaching' where teacher and student are in physical proximity.
>
> Moore 1977b: 6

Moore's first family of education is now generally recognised as conventional education, while the second family refers to distance education. As a result of all these considerations, the various forms of education/learning can be illustrated in the Figure 1.1 (refer to Keegan 1990a: 18-27).

Figure 1.1 The Various Forms of Education / Learning


Education / Learning: in the broad sense
Institutionalized Education

Learning in the Schooling Environment
Non-schooling Education

Learning in the Everyday-life Environment
Conventional Education
Distance Education
Learning from social & political activities
Learning from economic & professional/vocational life
Learning from cultural & recreation activities (eg. from mass media)
Learning from family and community
Private study .....

The definition of distance education

Distance education is a generic term that includes the range of teaching-learning strategies. A kind of formal recognition occurred in 1982, when the UNESCO-affiliated International Council for Correspondence Education (ICCE) changed its name into the International Council for Distance Education (ICDE). It indicates well the basic characteristic of this form of education: the separation of teacher and learner which distinguishes it from conventional, oral, group-based education.

There were some important definitions of distance education given by Dohmen (1967: 9), Peters (1973: 206), Moore (1973: 664, 1977b: 8) and Holmberg (1977: 9) in the 1960s and 1970s, which provided valuable assistance in the clarification of the area of study. However, up to the end of the 1970, there was still immense confusion in the terminology. In the 1980s, Keegan (1980a, 1980b, 1983 and 1986) and other authors (eg. Baath 1981; Willen 1981; Gough 1981; Holmberg 1985a; Delling 1987; and Tight 1988) made their contributions in this area. Keegan's effort in defining distance education has been acknowledged worldwide. In 1980, Keegan analysed the common elements of the most authoritative and accepted definitions by others and proposed a general descriptive definition of distance education with six basic elements. In 1986 when his book *the Foundation of Distance Education* was published, Keegan confirmed his descriptive definition proposed in 1980 with a slight revision of the first five elements and renunciation of the last element. This treatment was maintained when the second edition of the Book published in 1990:

Distance education is a form of education characterised by

* the quasi-permanent separation of teacher and learner throughout the length of the learning process (this distinguishes it from conventional face-to-face education);
* the influence of an educational organisation both in the planning and preparation of learning materials and in the provision of student support services (this distinguishes it from private study and teach-yourself programs);
* the use of technical media - print, audio, video or computer - to unite teacher and learner and carry the content of the course;
* the provision of two-way communication so that the student may benefit from or even initiate dialogue (this distinguishes it from other use of technology in education); and
* the quasi-permanent absence of the learning group throughout the length of learning process so that people are usually taught as individuals and not in groups, with the possibility of occasional meetings for both didactic and socialisation purposes.

Keegan 1986: 49, 1990a: 44

In the first edition in 1986, Keegan declared that "distance education is to be regarded as being constituted of these five interdependent elements, which remain constant essential components. ... In addition there are two socio-cultural determinants which are both necessary pre-conditions and necessary consequences of distance education" (Keegan 1986: 49). These are:

* the presence of more industrialised features than in conventional oral education.
* the privatisation of institutional learning.

Ibid: 50

But in the second edition (1990), these two socio-cultural determinants have been modified by the author. Keegan added that comparative studies of distance education system had shown that the element of face-to-face contact between learner and teacher or the learning group may be non-existing, voluntary, or compulsory. There has been debate on the question of the industrialised nature of distance education since Keegan proposed his definition of distance education in 1980. Some commentators doubted whether the concept of industrialisation should be applied to all distance teaching systems, especially small correspondence schools and dual mode institutions. Thus distance education is characterised by the privatisation, independence and autonomy of institutionalised learning in varying degrees in comparison with the conventional, face-to-face, group-based education.

Keegan's definition of distance education has also excluded resource-based teaching-learning (as a part of the broader concept of education at a distance) strategies from the concept of distance education in both editions of 1986 and 1990:

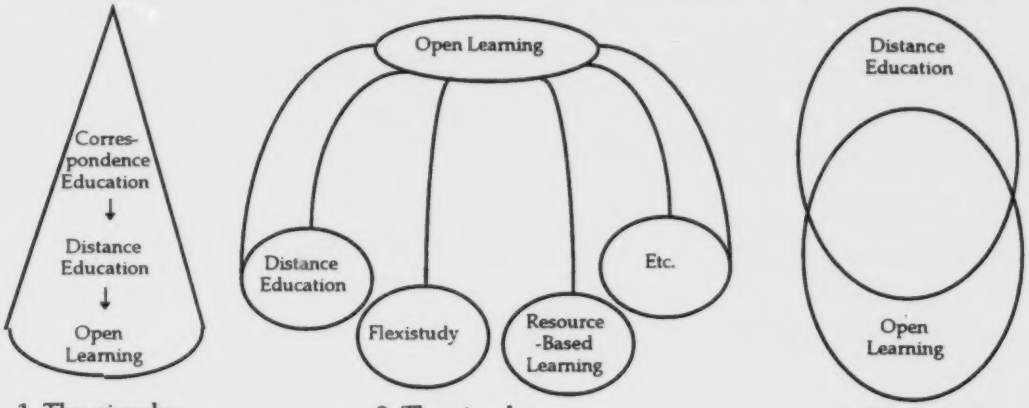
* the use of printed, audio-based, video-based, or computer-based learning materials in classroom, lecture theatres, seminars, tutorial, and laboratory sessions for on-campus programs.
* the use of printed, audio-based, video-based learning materials and computers in private study

Keegan, 1986: 51, 1990a: 45

Open learning and its relationship to the key concept distance education

This is not the suitable place to extend the debate on distance education and open learning further. What has been provided below is merely an effort to illustrate the positions of all three groups of authors in the debate in Figure 1.2 and to summarise several key points accepted and applied in this thesis.

Figure 1.2 Three Different Views in the Relationship Between Distance Education and Open Learning



1. The view by Group one

2. The view by Group two

3. The view by Group three

* distance education and open learning are two distinctive but interlinked concepts. Distance education is a non-contiguous and more or less space-time-free form of education. Open learning is a generic term used to represent not only open access, but also a variety of forms of flexibility in the learning process designed to meet individual needs. It refers to learner-centred learning and the removal of various kinds of barriers existing in teacher-centred and/or institution-centred education. In other words, in an open learning system, the learner is able to choose subjects, environments, media, strategies, and so on based on his/her individual requirements and possibilities.

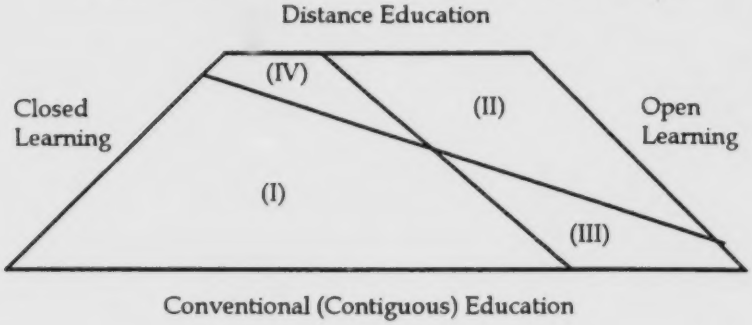
* there are no such things as the purely contiguous or the purely distant educational systems, or the purely open or the purely closed educational institutions. Educational and training systems all fall somewhere on a continuum. However, classification of educational systems and identification of a given institution as a certain type within a kind of classification in a relative sense is still valuable in research and desirable in practice.

* conventional education institutions around the most parts of the world today may still be identified as the most (or relatively) contiguous systems because they are characterised by the oral, face-to-face, group-based instruction within the classroom setting with the resource-based study and learning support service within the campus environment. In contrast, distance education institutions are more or less space-time-free forms of education with less oral, face-to-face, group-based

instruction provided in a dispersed environment of educational resource and learning support service. By its very nature, distance education is positively and highly correlated with open learning.

* in research, the relationship between conventional (contiguous) and distant educational systems with their features ranging from open to closed can be illustrated in Figure 1.3.

Figure 1.3 The Symbolic Trapezium: An Illustration of Relationships Between Conventional and Distance Institutions with Open or Closed Features



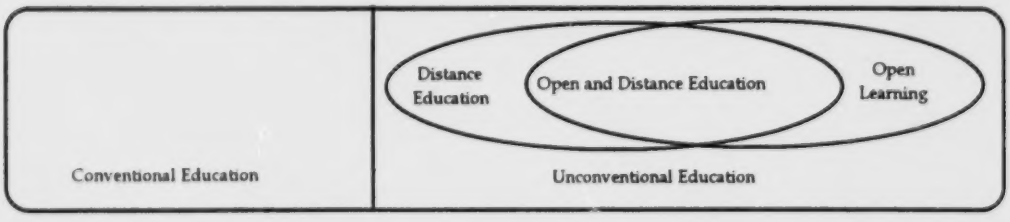
Note:

1. The bottom side for conventional education is longer than top one for distance education symbolising that there is a far greater number of conventional institutions in the world.

2. The cross consisting of both sliding lines divides the trapezium into four areas which symbolises four groups of educational institutions in a relative sense. For example, group (I) symbolises most conventional institutions which tend to exhibit closed features, while group (II) symbolises most distance education systems which tend to show open features. However, there are some conventional institutions with open features (group (III)) and some distance education systems with closed features (group (IV)).

* in practice, a simple classification (Figure 1.4) may be helpful to general educators and readers.

Figure 1.4 A Simple Classification



* various instruments introduced by different authors, for example, Lewis' argument on four sets of barriers inherent in conventional provision (1986), Rumble's five sets of criteria concerning open learning (Rumble 1989), Lewis and Spencer's one dimensional model of the open-closed learning continuum (Lewis & Spencer 1986), Kember and Murphy's two dimensional model of SCOLD (Kember & Murphy 1990) and so on, all have their own references to research and practice in this area.

Summary

Notes

[1] To promote the development of distance education and open learning in practice, research and theory and collaboration between distance teaching institutions in various countries, some international, regional and national professional associations were set up:

International Council for Distance Education (ICDE, former name ICCE);

African Association for Distance Eduction (AADE);

Asian Association of Open Universities (AAOU);

European Association of Distance Teaching Universities (EADTU);

Canadian Association for Distance Education (CADE);

Chinese National Association for Higher Correspondence Education;

Chinese National Association for Radio and TV Education.

Open and Distance Learning Association of Australia (ODLAA, former name ASPESA: Australian and South Pacific External Studies Association);

There are some other international, regional or national organisations or institutions with similar commitment to distance education and open learning:

International Centre for Distance Learning (ICDL);

Commonwealth of Learning;

Distance Education and Training Network of the National Society for Performance and Instruction, United States;

In addition, quite a few research departments have been established within or outside distance teaching institutions. Following are only some examples:

Distance Education Centre, the University College of Southern Queensland, Australia;

Distance Education Institute, the CRTVU, China;

Institute of Distance Education, Deakin University, Australia;

Institute of Educational Technology (IET), the UKOU;

Zentrales Institut fur Fernstudienforschung (ZIFF), the FernUniversitat, Germany;

American Centre for the Study of Distance Education, the Pennsylvania State University, USA;

Deutsches Institut Fur Fernstudienforschung, the Tubingen University, Germany;

National Institute of Multimedia Education, Japan.

[2] A great body of literature on various distance education systems, institutions, projects and programs, and their practice and experiences have been published. Among them, the International Council for Distance Education (ICDE) (former name: ICCE: International Council for Correspondence Education) has published its Proceedings of the World Conferences, the most recent one (the 17th) was held in Birmingham, the UK, 26-30, June, 1995. A comparative study of international distance education in the years 1983-1985 carried out at the Central Institute for Research into Distance Education (ZIFF), the FernUniversitat in West Germany. Full report of the study in the first step was published in German and an English summary by Holmberg (1985b), and the final report in the second step was published in 1988 (Graff & Holmberg 1988). Another recent

published report on distance education in Asia and the Pacific was prepared by the National Institute of Multimedia Education in Japan (Wong 1992, 1993). Some international organisations have also sponsored international or regional conferences and published the proceedings, reports or collected papers. For example, the World Bank published a volume of collected papers named *Alternative Routes to Formal Education: Distance Teaching for School Equivalency* (Perraton 1979), the Asian Development Bank published conference proceedings *Distance Education in Asia and the Pacific: Proceedings of Regional Seminar on Distance Education*, Volumes 1 & 2 in 1986, 1987 and *Distance Education in South Asia*, in 1990. Other examples were a briefing paper for a UNESCO-ICDE Round table: *Higher Level Distance Education and the Needs of Developing Countries* (Timmers 1988) and the outcome of a joint UNESCO and ICDE project *Developments in Distance Education in Asia: An Analysis of Five Case Studies* (Smith 1992, 1993).

There have been a number of specialised publications on the development of distance education in the world, among them *Short descriptions of selected distance-education institutions* by Doerfert, Schuemer & Tomaschewski (1989) and *Distance Education: A Spectrum of Case Studies* by Khoul & Jenkins (1990). In his book of *Growth and Structure of Distance Education*, Holmberg studied the innovatory evolution of distance education in the 1970s and 1980s, the principles for practice and other pervasive themes (Holmberg 1986a, chapters 4-7: 29-102). In the recently published second edition of his work *Theory and Practice of Distance Education*, Holmberg contributed its first chapter to 'Today's Overall Picture of Distance Education' (Holmberg 1995a: 1-17).

[3] The 1980s and the early 1990s saw an explosion of literature on distance education. Journal literature represents an important source of information on current developments in distance education. Following are some internationally well-known journals devoted specially to distance education:

American Journal of Distance Education (USA);
Distance Education (Australia);
Epistolodidaktika: the European Journal of Distance Education (UK);
Journal of Distance Education (Canada);
Open Learning (the successor to *Teaching at a Distance*, UK)
Open Praxis (the Bulletin of ICDE);

To these should be added those regional and national publications, some of which are journals and some are newsletters. In Australia there are *ASPESA News* and *ASPESA Papers* and *Open Campus* (by Deakin University, now ceased publication), while in China three major journals published in Chinese:

China TV University Education (in Chinese, formerly *TV Universities* founded in 1983, renamed in 1986, Beijing);

Modern Distance Education (in Chinese, formerly *TV University Education* founded in 1983, renamed in 1988, Harbin);

Open Education Research (in Chinese, founded in 1995, Shanghai).

The general expansion of distance education and open learning is also reflected in the increasingly large number of conferences, seminars, workshops and symposia which are concentrated with distance education in general, with specific aspects of distance education, or with general or specific provision in particular regions or countries of the world. (Harry 1993: 210-24; Holmberg 1995a: 207-9.)

There have been a number of specialised publications on theorising distance education and most of them were published in English by Routledge and Kegan Paul, Kogan Page and Croom Helm (now part of Routledge), and their American associations. Among them, *Distance Education: International Perspectives*, edited by Sewart, Keegan and Holmberg in 1983 has generally been accepted as one of the best writings on the subject published in the past two decades. Since then, a number of specialist works on distance education have been published. Among them, *Status and Trends of Distance Education*, second revised edition with an alphabetical and systematic bibliography (1985a), *Growth and Structure of Distance Education* (1986a), *Theory and Practice of distance Education* (1989a, 1995a) by Holmberg; *The Foundation of Distance Education* (1996, 1990a), *Principles of Distance Education* (1993), *Otto Peters on Distance Education: The Industrialisation of Teaching and Learning* (1994) by Keegan; *The Planning and Management of Distance Education* (1986) and *The Management of Distance Learning Systems* (1992) by Rumble; *Understanding Distance Education* (1989) by Garrison; *Education at a Distance: From Issues to Practice* (1990) by Garrison and Shale; *Distance Education: The Foundation of Effective Practice* (1991) by Verduin and Clark; *Distance Education as Two-way Communication: Essays in Honour of Borje Holmberg* (1993) by Ortner et al; and *Distance Education: New Perspectives* (1993) by Harry et al. These are only some selected examples with general interest in overall distance education. Those articles and papers published in journals and conference proceedings and the works and monographs concerning more specific aspects of distance education cannot be listed here because of their large number.

Chapter 2

The Chapter 2 contained 37 pages (pp. 39-76) with 11,428 words originally

A Conceptual Framework for The Comparative Study of Distance Higher Education Systems

Introduction

Distance education is an institutionalised form of education, consequently educational systems and/or institutions become the main target for distance education research and comparative study. In this chapter a conceptual framework for the comparative study of distance higher education systems is developed and presented.

Section 2.1

Comparative Studies of Distance Higher Education Systems and the Need for A Newly Formulated Conceptual Framework

Comparative distance education, especially comparative studies of distance higher education systems, typologies and evaluation etc. (refer to Holmberg 1989b: 28) constitutes one of the subfields of distance education as an academic discipline. In this section, five groups of pioneering comparative studies of distance higher education systems are critically reviewed, and the reasons why a newly formulated conceptual framework is needed is then presented.

Comparative studies of distance higher education systems in five groups

The pioneering comparative studies of distance higher education systems can be divided into five groups according to their key features.

* The first group consists of cross-national studies of distance higher education systems. The work of this group provides an international or regional perspective of distance higher education through case studies or selected country papers. They are mainly descriptive.
* The second group focuses upon statistical description and analyses of distance higher education systems around the world or in particular regions, usually using methods of general and/or sampling surveys, questionnaire design technique and statistical analysis.
* The third group makes their contribution to evaluation and appraisal studies of distance higher education systems by proposing appraisal conceptual frameworks and/or evaluating selected institutions or programs.

* The fourth group devotes itself to typological studies of distance higher education systems and/or institutions worldwide. This is mainly a form of conceptual work with some case studies as the examples.
* The fifth group concentrates on one or several subject matter oriented surveys and/or comparative studies of international or regional distance higher education systems.

The need for a newly formulated conceptual framework

These studies have begun to build the essential foundation for further comparative study, but they remain embryonic. This is not surprising as even the more general area of comparative higher education is still far from mature. The major limitations of these previous works on comparative study of distance education are as follows:

* In most cases, the studies have concentrated on the internal subjects and issues of distance higher education systems, such as the structures and methods within educational institutions. Less attention has been paid to external factors and environments, that is, the educational and societal contexts within which the distance higher education systems and institutions are set up and operate. In addition the relationships between internal characteristics of the systems and their external conditions have not been firmly integrated in previous comparative studies.
* In most cases, the comparative studies still remain at the stage of case studies, that is, analytical research examining distance higher education systems separately and independently in several countries, but without paying adequate attention to reciprocal interactions and influences.
* Frequently emphasis has been placed upon the mainstream system, ie. the autonomous distance teaching institutions.
* There have been conceptual frameworks for systems' analysis and/or appraisal, and for typological analysis, however, only a few have addressed both endogenous and exogenous links and their interrelations, and the interactions between the various distance higher education systems in the world.

Holmberg concludes his commentary on the distance education research at the end of his second revision of his influential book *Theory and Practice of Distance Education* by concurring with the position presented by Campion and Guiton which provides further justification for the relevance of the conceptual and methodological framework adopted in this thesis of comparative study:

> Most of the above exposition has concentrated on the internal problems of distance education, such as methods, without paying much attention to its milieu apart from its very prerequisites. There are scholars, however, who find it more important to investigate the role of distance education in society and how social conditions and distance education influence each other. In a paper published in 1991 Mick Campion and Patrick Guiton, both of Murdoch University in Western Australia:
>
> hope to begin to challenge the theoretical underpinning of policies which ignore, and hence deliberately or inadvertently, hide the fundamental importance of the economic, technological,

> demographic, cultural, political and social contexts within which a system of higher education operates. In essence we are arguing that ... an emphasis on endogenous factors will no longer do. (Campion & Guiton 1991: 12)
>
> Holmberg 1995a: 212

Campion wrote a paper entitled 'Implications of the distinction between exogenous and endogenous factors for research in distance education' in 1993 (Campion 1993b) which developed this theme further [1].

Pan, a Chinese professor in higher education holds the similar viewpoint (Pan 1986, 1992). Since 1980, Pan has expressed and developed his idea about two fundamental rules of education in the Chinese context:

> One is the fundamental rule of educational external relationship which refers to the rule of relationship between education, as a subsystem of the society and the whole societal system and its other subsystems - mainly economic, political, cultural systems, it can simply be called as educational external rule; the other is the fundamental rule of educational internal relationship which refers to the rule of relationship between its various internal elements or subsystems within education as a system, it can simply be called as educational internal rule. ... In socialist China, ... [the educational internal rule] can be stated as "Socialist education must train people of all-round development through moral, intellectual and physical education". ... The educational external rule can be stated as "Education should match the societal development", and "the term 'match' includes two aspects of meaning, that is, education is restricted by politics, economy, culture and sciences of a certain society, while at the same time education must serve for the development of politics, economy, culture and sciences of a certain society".
>
> Pan 1992: 67

In order to carry out an integrated endogenous and exogenous study, a new conceptual and methodological framework is needed. A new framework named **Systems Analysis, Typology and Shaping Mechanism** (**SATS**) conceptual framework for the comparative study of distance higher education systems is developed in this thesis. The framework comprises three propositions: a systems analytical framework, a systems typology and a systems shaping mechanism.

Section 2.2

Proposition One: A DHE Systems Analytical Framework

A distance higher education systems analytical framework is developed first as the proposition one of the SATS conceptual framework in this section. So-called 'open systems' drawn from systems theory and organisation theory is introduced for analysing distance higher education systems.

Systems theory and organisation theory

Pioneering international studies of distance higher education systems

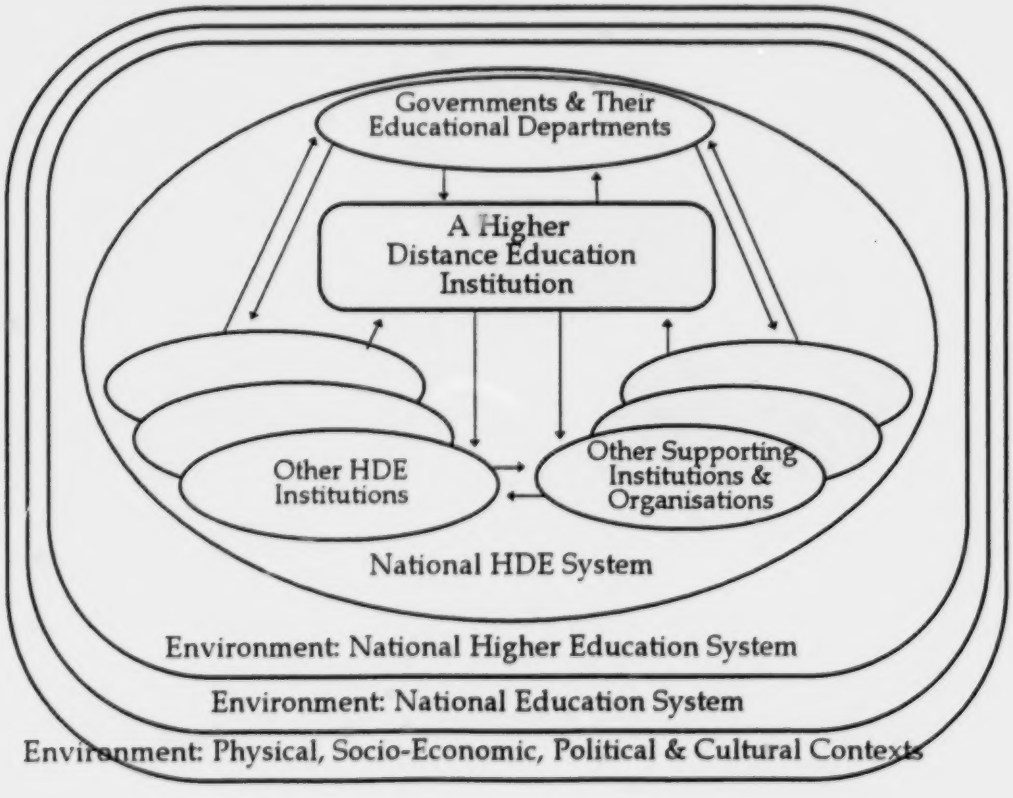
A new analytical framework

Following are several key adaptations and developments for the new distance higher education systems analytical framework formulated in this thesis:

1. introduction of the concept of three levels of analysis, ie. macro-level: the national system, median level: the individual institution and micro level: the learning group;
2. division of the operation subsystem into three subsectors of student, teacher and course, and the introduction of the concept of learning group as the interactive intersect of the three subsectors within the operation subsystem; and
3. an outline of structural elements (in both internal and contextual dimensions) and of the functional processes for distance higher education systems, together with the introduction of both endogenous links within the system and exogenous links between the system and its educational and societal contexts.

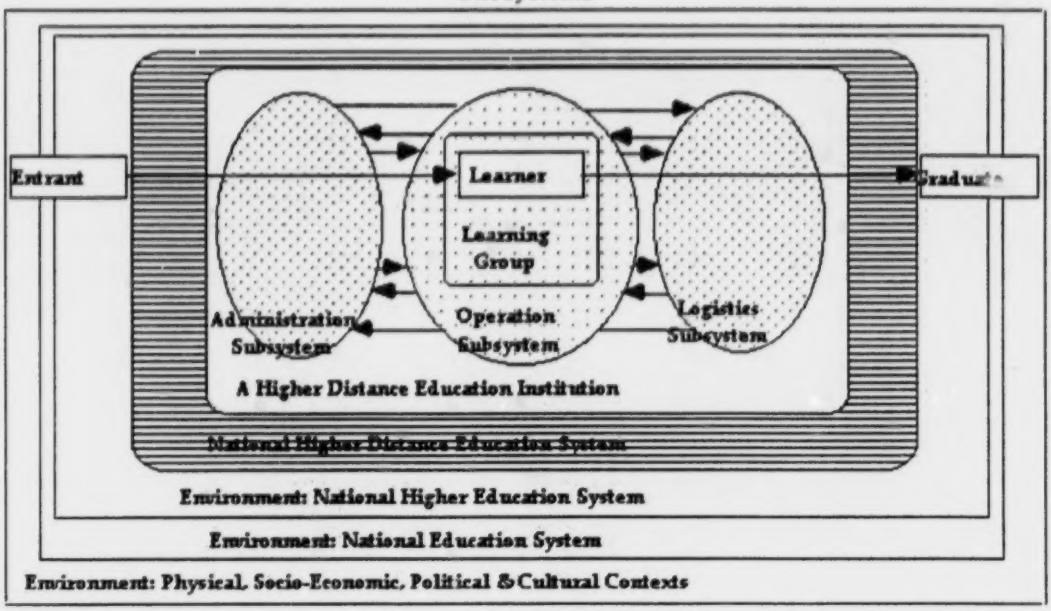
The main structure of distance higher education system with its three levels and three subsystems within the individual institutions, also with its educational and societal contexts can be illustrated in following Figure 2.2 and 2.3 (see below).

Figure 2.2 The Distance Higher Education System With Its National Structure at Macro Level, and Its Educational and Societal Environments


Governments & Their Educational Departments
A Higher Distance Education Institution
Other HDE Institutions
Other Supporting Institutions & Organisations
National HDE System
Environment: National Higher Education System
Environment: National Education System
Environment: Physical, Socio-Economic, Political & Cultural Contexts

Second, three major subsectors of operation subsystem can be distinguished in distance education institutions: student subsector, teacher subsector and course subsector. The course subsector is concerned with the design of educational program and curriculum, the use of educational technology and media and the creation, production and delivery of multi-media course materials. The teacher subsector refers to the academics and their distance teaching activities including those academic functions in preparation of course materials and media and in learning support services, and the professional development for academics as well. The student subsector refers to the learners and the distance learning activities. Distance learning is brought about, on one hand, by the pre-produced courses and, on the other hand, by learning support services - the systematically designed two-way communications between learners and tutors, consultants and other representatives of the supporting organisation (institution). In the operation subsystem, the three subsectors interact with each other and form the learning group at its centre (the micro level of the system) with learner and the learning environment inside. Such a detailed structure at micro level of distance higher education can be illustrated in the Figure 2.4 (see below).

Figure 2.3 The Distance Higher Education System With Its Structure at Three Levels and Three Subsystems



Third, both internal and contextual dimensions of distance higher education systems, their structural elements and functional processes illustrated in Figure 2.2, 2.3 and 2.4 are listed explicitly in Tables 2.1 and 2.2 (see below).

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Figure 2.4 Detailed Illustration of the Learning Group within the Operation Subsystem

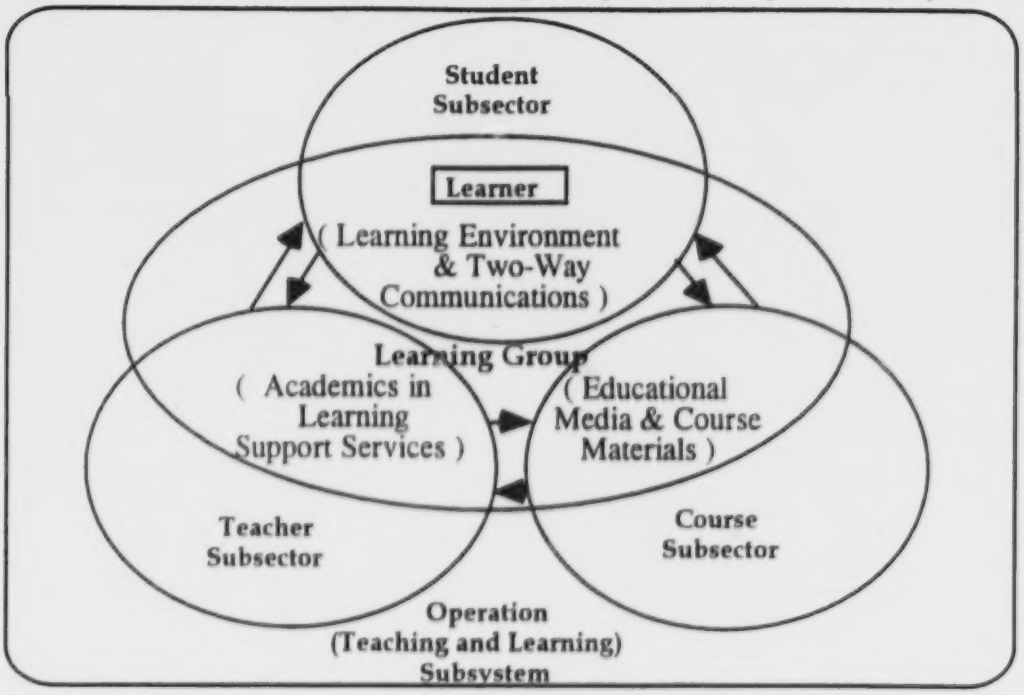


Table 2.1 An Analytical Framework for Studying Distance Higher Education Systems, Their Structures and Functions (1): Internal Dimensions

Level/ Subsystem/ Subsector	Key Structural Elements and Functional Processes
Macro level: National system	• Governments and their educational departments: policy- making, administration and management over DHE institutions, funding regime and financial management etc.; • Various kinds of distance higher education institutions within the national system; • Relationship between governments' administration and institutional autonomy; • Relationship between various DHE institutions; • Relationship between DHE institutions and other HE institutions; • Relationship between DHE institutions and other supporting institutions and organisations (eg. broadcasting organisations etc.).
Median level: Individual institution	
Administration subsystem	• Institutional organisation; • Institutional administration and management; • Institutional financial management; • Academic management: program management and accreditation policy. • Faculty management: academic staffing;
Operation subsystem	
Course subsector	• Educational program and curriculum, courses by type, level and study field; • Use of educational technologies and instructional media; • Educational resources, facilities and infrastructure; • Course development.

Student subsector	* Application, registration and record keeping; * Student learning support services.
Teacher subsector	* Academics in instructional design and course development; * Academics in learning support services; * Professional development.
Micro level: Learning group	* Learner bodies; * Learning environment; * Learning process; * Learning strategy; * Learning psychology.

Note: The internal dimensions in this table will mainly be used in Part II to analyse the distance higher education systems in Australia and China.

Table 2.2 An Analytical Framework for Studying Distance Higher Education Systems, Their Structures and Functions (2): Contextual Dimensions

Contexts	Key Structural Elements	Main Implications
Physical	Geography and population	National physical conditions and its impact on DHE system.
Economic	* Socio-economic development goal & strategy * Economic system and policies; * Employment and labour force market; * Information technology and industry, its development and application in education.	* Possibility and necessity for developing DHE; * Macro-economics issues of DHE; * Providing the technological and material base for developing DHE.
Political	* Political system and ideology.	* Its impact on DHE.
Cultural	* Cultural tradition.	* Its impact on DHE.
Educational	* Higher education system; * Adult education system; * National education system.	* Relationship and interactions between DHE system and its educational contexts.

Note: The contextual dimensions above will be used in Part III to explore the exogenous features and their inter-relations with the endogenous features for the DHE systems in Australia and China.

Section 2.3

Proposition Two: A DHE Systems Typology

This section concentrates on developing a new typology of distance higher education with three dimensions: industrialisation, organisation and administration, and distance teaching and learning.

Three steps in typology study: purpose - criteria - classification

There is no standard typology - each group of criteria may result in a specific classification. In addition to this, there is no best typology - each serves a particular purpose. Typology study has shown that there are three basic steps in introducing a new typology:

1. to outline the purposes which the typology will serve;
2. to clarify the criteria for creating the classification; and

3. to design the classification based on comparative study of existing distance higher education institutions in the world.

Some selected typologies with elements of value for identifying of distance higher education institutions

Peters' typology (1971)

A first attempt to group distance higher education institutions was implied in Peters' work (1971a) in which he presented Western and Eastern models of distance education at the university level. Peters' division reflects the fundamental differences in administration and didactic structures between a study program based on printed materials plus correspondence or media communication as in the Western model, and the Eastern model based on printed materials plus regular face-to-face sessions. Four criteria are given by Peters (1971a: 8-12) for his classification: political, curriculum, organisational and didactic structures. In the following chapters it will be shown that the contrast between Western and Eastern models introduced by Peters is still well founded when a comparative study is conducted between Australia and China.

El-Bushra's typology (1973)

El-Bushra (1973: 13-5) identified six categories of institutions providing for external students at university level. The last five (2-6) of them represent various types of distance education provision offered by the existing conventional universities, which are generally called dual mode. In contrast with these, the first one which dealing exclusively with distance students refers to a single mode of provision.

Neil's typology (1981)

Neil presented (1981: 138-41) a typology of distance teaching institutions based on two criteria, those of (i) the degree of authority and (ii) the degree of control exerted by the various types of institutions in the following four key operating areas:

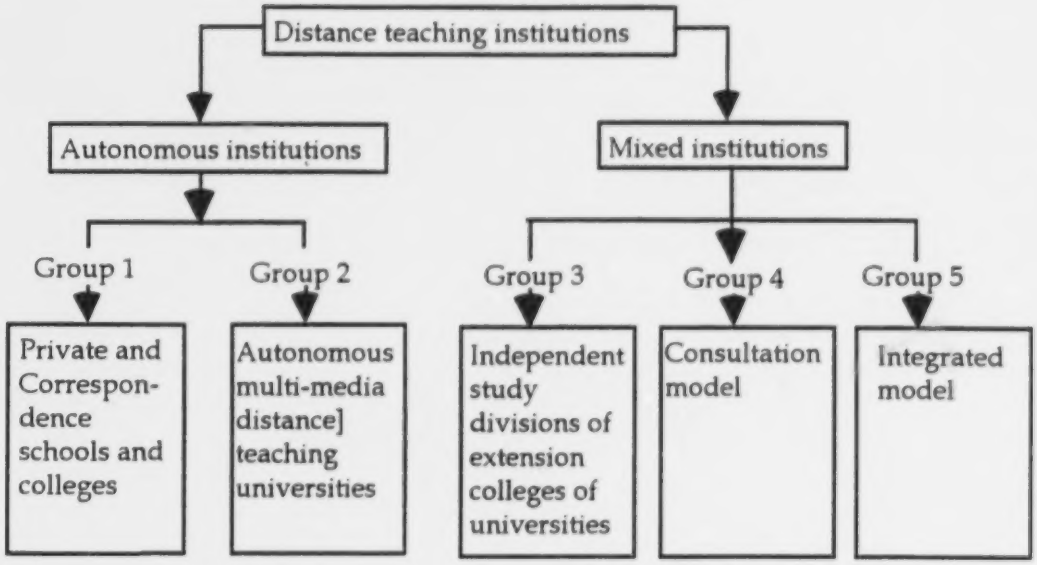
* finance,
* examination and accreditation,
* curriculum and materials, and
* delivery and student support services.

Neil states that an autonomous distance teaching university (No. 1) is a whole system control model with control and authority over all four operation areas listed. In this way, Neil made his important contribution to the typology studies, especially by introducing the concept of autonomous distance teaching institutions to represent the new generation of distance education provisions.

Keegan's typology (1982)

The basis of his typology was whether the institution was established solely for distance education or was a mixed or hybrid institution having both distance and conventional students (see Figure 2.5).

Figure 2.5 Keegan's typology (1982)



Source: Adapted from Keegan & Rumble 1982a: 27-8. Also see Keegan 1989a: 169-81, Keegan 1990a: 123-39.

Ding's typology (1988)

It is quite clear that all of the typologies mentioned above have been based on a same formula which has the distinction between single (autonomous) and dual (mixed) modes as the fundamental division. However, there are two basic confusions in these typologies:

* first, for most typologists, El-Bushra's division of single and dual modes and Neil's classification of autonomous and mixed models seems to be more or less the same. However, the single mode (the systems established exclusively for distance learners) includes both autonomous distance teaching institutions and various multi-bodied systems (eg. China's RTVUs system);
* second, two classifying criteria - organisational and administrative structure, and mediated teaching strategy - were mixed together in some typologies.

In *An Introduction to Distance Higher Education* (1988), Ding proposed the following typology in a matrix form with two dimensions of multi-media teaching strategy, and administrative and organisational structure. In Ding's typology, two criteria are separated and become the two dimensions in the matrix (see Table 2.3 below). In addition, under the single mode, both autonomous mono-institutions (ie. autonomous distance teaching institutions) and multi-bodied systems are introduced in parallel.

Table 2.3 Ding's Typology (1988)

Teaching strategy:			Print materials		Multi-media (*Using satellite)			
			Print materials as prior medium with a little audio-visual materials		Print materials as prior medium with audio-visual materials as assistant one		IIa. Audio-visual materials (broadcasting) as one of prior media	
Administrative structure:			Correspondence communication	With substantial face-to-face sessions	Non-broadcasting	Use of broadcasting	With rare face-to-face sessions	With substantial face-to-face sessions
Single mode	Autonomous mono-institution	Local	FeU FRG	Ukrainian Polytechnic		AU Canada		UOA Japan
		National		Union PolytechnicUSSR	OU Dutch	OU UK		
		International						
	Multi-bodied system	Hierarchical						RTVUS * China
		Fellow-ship	Massey University New Zealand			OLA Canada	NTU * USA	
Dual mode	Transition model	External students as prior	Deakin University Australia					
		Independent division	Univ. of Queensland Australia	People's University China		Quebec University Canada		
	Mixed model	Separated	Univ. New England Australia	Karl Marx DDR				
		Integrated	Univ. New England Australia					
		Uni-depart-ment					Univ. of * South Pacific Fiji	

Source: From Ding 1988a: 29-32. Also see Ding 1992: 51.

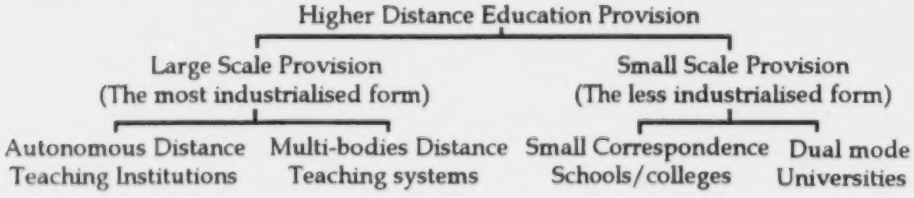
Peters' industrialisation theory and Garrison-Nipper's three generations of distance education

Peters' comparative research on distance institutions of all types throughout the 1960s (1965, 1968) led to his characterisation of distance education as 'the most industrialised form of education' in the later 1960s and the early 1970s (1967, 1971b, 1973):

> Anyone professionally involved in education is compelled to presume the existence of two forms of instruction which are strictly separable: traditional face-to-face teaching based on interpersonal communication and industrialised teaching which is based on an objectivised, rationalised, technologically-based interaction.
>
> Peters 1973: 313

According to Peters' ideas, in contrast to craft-like nature or pre-industrial form of conventional education, distance education, including correspondence education within dual mode institutions, can be identified as an industrialised form of education. From the perspectives of some other authors (eg. Holmberg 1985a: 9-10, 1995a: 7), the concept of industrialisation may not be applied to small scale correspondence schools/colleges and dual mode universities which could be recognised as less-industrialised model; on the other hand, the industrialisation theory is useful to develop a better understanding of large scale distance teaching institutions and/or systems with multi-media teaching and mass enrolment. This classification of large versus small scale provision can be illustrated as follows:

Figure 2.6 A Classification of Large versus Small Scale DHE Provision



Since the end of the 1980s, this industrial approach has been supplemented and extended through the application of the Fordist, neo-Fordist and post-Fordist conceptual framework, and Post-industrial and Post-modern concepts have been introduced to interpret these developments (eg. Campion 1990a, 1990b, Edwards 1991, Campion & Renner 1992). In their model of production systems based on three key variables of product innovation, process variability and labour responsibility, Badham and Mathews (1989) identified three 'ideal types' of production systems. Badham and Mathews' model of the Fordist, neo-Fordist and post-Fordist production systems is presented in the following diagram (see Fig. 2.7 below).

Campion and Renner have drawn attention to the implications of this model to distance education. They provided illustrations of how such differing production processes might relate to distance education, for example:

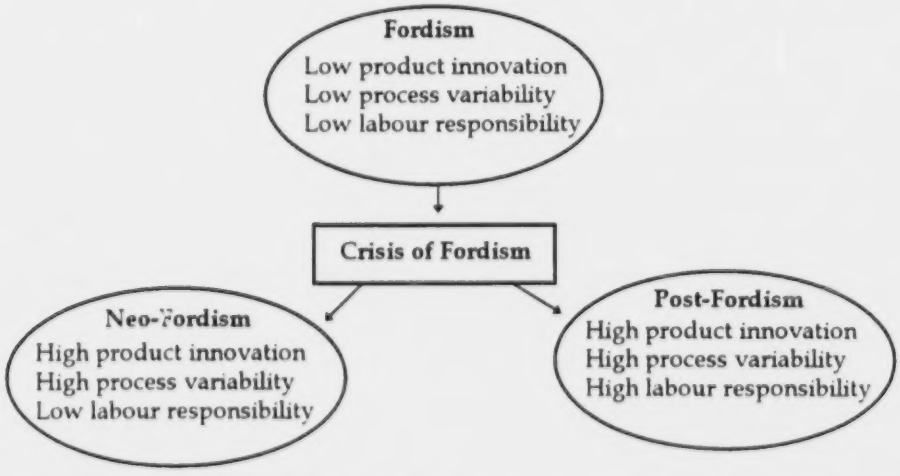
The Fordist strategy for distance education suggested a fully-centralised, single-mode, national distance education provider, gaining greater economies of scale by offering courses to a mass market, thereby justifying a greater investment in more expensive course materials. Rationalisation of this kind allows for increased administrative control and a more extreme division of labour as the production process is fragmented into an increasing number of component tasks.

The neo-Fordist strategy extends the Fordist system by allowing much higher levels of flexibility and diversity, and by combining low volumes with high levels of product and process innovation. However, neo-Fordist production retains a highly-centralised Fordist approach to labour organisation and control. A neo-Fordist expression of distance education might well be represented by a centrally-controlled, perhaps multinational, yet locally-administered model of distance education. By also using self-instructional course materials for teaching on-campus students, it has the potential to massively reduce costs across the whole student population. However, and, most importantly, a neo-Fordist manifestation of distance education bears a strong relationship to that of the Fordist route insomuch as it has an overall deskilling effect on academic staff.

The post-Fordist strategy is characterised by high levels of all three variables: product innovation, process variability and labour responsibility. It is opposed to neo-Fordism and Fordism, dispensing with a Taylorist division of labour and rigid managerial control and deliberately fostering a skilled and responsible workforce. A post-Fordist model of distance education would be decentralised and retain integration between the study modes. Academic staff would, however, retain autonomous control of their administered courses, and in so doing, would be able rapidly to adjust course curriculum and delivery to the changing needs of students (based on Campion & Renner 1992: 10-11).

Campion 1995a: 194

Figure 2.7 Badham and Mathews' Model of the Fordist, Neo-Fordist and Post-Fordist Production Systems (1989)



(Based on Badham & Mathews 1989: 206-7) Source: Campion 1995a: 193

In addition to industrialisation theory, the conception of three generations of information technology and distance education has implications for typology studies.

Concerning the relationship between the development of information technology and distance education, Garrison, in his paper entitled 'three generations of technological innovations in distance education' in 1985, pointed out:

> It will be argued that the development of distance education can be structured into three generations of technological innovation - correspondence, telecommunications, and computers. The technological innovations and resulting paradigm shifts in the delivery of distance education will be analysed through the concepts of interaction and independence. These concepts in turn will provide the dimensions for a typology of media consistent with the suggested generational shifts in distance education delivery. Such structures and typologies could assist distance educators to better understand the essential characteristics of distance education and the selection of media for delivery.
>
> Garrison 1985: 235-6

Four years later, Nipper, a Danish scholar, introduced the concept of three generations of distance education in his paper 'Third Generation Distance Learning and Computer Conferencing' in 1989:

> ...the terms first, second and third generation distance learning refer to three models of distance education, which are linked historically to the development of production, distribution, and communication technologies.
>
> Another name for 'first generation' distance learning is correspondence teaching. The medium in this case is written or printed material. ...
>
> 'Second generation' distance education is also called multi-media distance teaching, and has been developed since the late 1960s, integrating the use of print with broadcast media, cassettes, and - to some degree - computers. ...
>
> However, communication, and learning as a social process, will be the key elements in the conceptual development of third generation models of distance learning. ...
>
> Nipper 1989: 63-4

From the perspective of communication technologies, the first and second generations of distance education are one-way from teacher to learner with very restricted two-way communications between them. Unlike the first and second generation, the third generation of distance education will be based on the interactive two-way communications between teacher and learner and amongst the learners. Nipper's ideas were introduced and developed in Bates' article 'Third generation distance education: the challenge of new technology' (1991) and received a worldwide acceptance.

According to the ideas of three generation distance education, the second generation is defined as mass distance education based on one-way mass telecommunications media such as radio and TV broadcasts and printed materials. It is not surprising that a close relationship was identified between

the second generation of distance education, the large scale mainstream system of autonomous distance teaching universities, and the Fordist paradigm or the most industrialised form of mass distance education. The relationship between the third generation of distance education grounded in computer-based two-way tele-communications with applications of the information superhighway and interactive multimedia in educational delivery and post-Fordist paradigm or post-industrial and post-modern concepts which require much more interaction, independence and privatisation in teaching and learning has also been suggested. In his article 'Modes of Production: Fordism and Distance Education' (1993) Farnes went even further. He argued that historical modes of production - pre-industrial, industrial pre-Fordist, Fordist and post-Fordist - parallel four stages of educational development - from the craft model, to mass elementary followed by mass secondary education and yet to be achieved mass higher and continuing education. Three generations of distance education can be located in the latter three of these stages (see Table 2.4).

Table 2.4 Modes of Production and Stages of Conventional and Distance Education Development

Mode of production	Stages of educational development Conventional education	Distance education
1) Pre-industrial	Craft model, Oxbridge tutorial, apprenticeships	Pre-distance education independent learning from books
2) Industrial, Pre-Fordist	Mass elementary, expansion of secondary education	1st generation single media distance education
3) Fordist	Mass secondary, expansion of further and higher education	2nd generation multi-media distance education
4) Post-Fordist	Mass higher and continuing education, mixed mode	3rd generation computer based open and distance education, networks of opportunity

Source: Farnes 1993: 11.

Farnes' suggestion seemed extremely ideal and rigid and has caused criticism which will be examined later (refer to Chapter 7). Nevertheless, all these arguments around industrialised forms of education and generations of distance education have valuable implications for typology studies.

A new formulated typology

Based on all the pioneering work on typology analysed above, a newly formulated typology with a set of codes is proposed as appropriate for a comparative study of distance higher education systems. The typology consists of the following three dimensions:

1 dimension one: industrialised form of education (Table 2.5.1 below).
2 dimension two: administrative and operational organisation (Table 2.5.2 below);
3 dimension three: distance teaching and learning (Table 2.5.3 below).

Table 2.5.1 A DHE Systems Typology in Dimension One: Industrialised Form of Education

Code	Title	Description
L	**Less industrialised mode**	Typically represented by small scale and/or dual mode institutions providing (Pre-Fordist model) external studies program
M	**Most industrialised mode**	Typically represented by large scale institutions providing mass higher education based on modern information technology and mass media
MF	Fordist model	Typically represented by highly centralised institutions providing rationalised and standardised programs and courses, ie. indicated by low level in all three variables of educational operation: academics responsibility, program and course innovation and teaching-learning process variability
MN	Neo-Fordist model	Typically represented by centrally controlled and local administered institutions providing various programs and courses suitable for local needs, ie. indicated by low level on academics responsibility combined with high level of program and course innovation and teaching-learning process variability
MP	Post-Fordist model	Typically represented by decentralised institutions or some kinds of consortium through collaboration of existing institutions, providing very flexible and variable programs and courses, ie, indicated by higher level of all three variables of educational operation: academics responsibility, program and course innovation and teaching-learning process variability

Note: The typology in dimension one - industrialised form of education will be used in both Part II and III. For example, refer to table 6.1.1 in Chapter 6 and Chapter 7.

Table 2.5.2 A DHE Systems Typology in Dimension Two: Administrative and Operational Organisation

Code	Title	Description
S	**Single mode**	Distance teaching institutions or systems, established exclusively for distance learners
SA	**Autonomous mono- institution model**	Autonomous institution with full functions of the institutionalised distance education
SF	**Partnership multi-bodied model**	Multi-bodied system with decentralised and/or partnership relation between them
SH	**Hierarchical multi-bodied model**	Multi-bodied system with hierarchical and/or centralised relationship between them
D	**Dual mode**	Distance subsections of conventional universities
DI	**Integrated model**	Same group of academic staff for both on-campus and off-campus teaching and course development in dual mode institutions which provide both on-campus and off-campus students the same programs and curricula with proximately the same course materials, assessments and awards
DP	**Separated model**	A separated group of academic staff is responsible for distance teaching and course development in dual mode institutions which provide distance students parallel programs and curricula to those for on-campus studies, with specially designed course materials, assessments and awards different from those offered to on-campus students
DS	**Segregated model**	A segregated division (department/college/school) attached to a conventional university
DM	**Multi-institutional model**	A consortium or association providing distance education through cooperation and collaboration of several conventional universities and other organisations

Q	**Quasi mode**	Quasi distance teaching institutions or systems without full functions of institutionalised distance education
QC	**Course transmission centre model**	An institution responsible for transmitting courses, but not teaching, assessing and managing students
QE	**External degrees model**	A conventional university providing external degrees examinations and awarding, but not teaching and managing students
QS	**State examinations model**	State administered qualification examinations system for independent study

Note: The typology in dimension two - administrative and operational organisation will be used in both Part II and III. For example, refer to table 6.1.2 in Chapter 6 and Chapter 8.

Table 2.5.3 A DHE Systems Typology in Dimension Three: Distance Teaching and Learning*

Code	Title	Description
Mediated teaching at a distance		It refers to educational technology and instructional media used in distance education institutions
I	**Correspondence teaching (First generation) mode**	Printed material as prior medium with a little audio- visual materials
IC	**Correspondence model**	Correspondence (and telephone) serves as the key channel of communication with a few optional or even non-existing of face-to-face group-based sessions
IF	**Consultation model**	Compulsory face-to-face group-based sessions with correspondence are the key channels of communication
II	**Multi-media teaching (Second generation) mode**	One-way mass communication as the important medium has been introduced to supplement print
IIP	**AV assistant model**	Printed materials play the role of prior media with audio-visual materials as the assistant media
IIA	**AV substantial model**	Both audio-visual materials and printed materials play the role of substantial media
III	**Two-way tele-education (Third generation) mode**	Two-way telecommunication and computer-based interactive multimedia will play key role in distance teaching and learning
Open learning at a distance		It refers to learning environment and learning strategy
I	**Individual and home based mode**	Learning is mainly individual and home based with a few or non-existent face-to-face sessions
IO	**Open and flexible learning model**	The institutions provide learner open access and more flexibility, independence and autonomy in learning
IL	**Semi open and flexible model**	The institutions provide learner less open accessibility and only some extent of flexibility, independence and autonomy in learning
G	**Group based mode**	Learning is mainly group based, usually at work placewith substantial compulsory face-to-face sessions
GL	**Less open and flexible model**	The institutions provide learner less open or closed accessibility and less flexibility, independence and autonomy in learning

* Attention should be given to distinguish terms model and mode used in this new typology. There are three dimensions with the third dimension having two aspects (distance teaching and learning). Under each dimension/aspect, there are several modes and within a mode there are a few models.

Note: The typology in dimension three - distance teaching and learning will be used in both Part II and III. For example, refer to table 6.1.3 in Chapter 6 and Chapter 9.

Section 2.4

Proposition Three: A DHE Systems Shaping Mechanism

This section is a contribution to the development of a distance higher education systems shaping mechanism, which forms the proposition three of the SATS conceptual framework for the comparative studies of distance higher education systems recommended in this thesis.

Comparative education

According to Epstein's commentary, positivism and cultural relativism manifest totally disparate ideas about comparison and the proper study of education. Positivist scholars examine invariant relationships that transcend the boundaries of particular societies, while relativists focus on the particularities of cultures as these are linked to the idiosyncrasies of national systems of education. The former uses 'comparison' to generalise about education across cultures, while the latter employs it to grasp the unique character of a nation's education. These perspectives are not simply different but mutually exclusive. Certain rival orientations constitute a threat to comparative education because they were in essence epistemologically, and even ideologically, irreconcilable. Even so it is interesting that the positivist and relativist orientations have been the strongest and most persistent in comparative education (Epstein 1988: 8, 23).

The challenge faced by comparative education is common to other fields in social studies (comparative sociology, comparative culture, comparative anthropology, comparative law etc.). There have been some attempts to search for a synthesis of varying orientations. Some comparativists explicitly employ both contextual, interpretive analysis and cross-national generalisation to serve the purpose of a particular epistemology. In his article 'Trends and Issues in Comparative Education' 1990, Halls suggested that today a definition derived from one characterisation of comparative sociology might be more appropriate:

> 1. to provide an educational morphology, ie. a global description and classification of the various forms of education. (This has been one function of UNESCO and particularly of the IBE).
> 2. to determine the relations and interactions between the different aspects or factors in education, and between education and society. (This may be the stage that 'comparative education' has now reached).
> 3. to distinguish the fundamental conditions of educational change and persistence and relate these to more ultimate philosophical laws. (This millenarian task is one that some comparative educationists, like most historians, believe is beyond accomplishment).
>
> Halls 1990: 22

In the same article, Halls proposed a typology of comparative education (Halls 1990: 23). In Halls' typology there was a branch classified as follows:

> Intra-educational and intra-cultural analysis, which investigates education by its various levels, and also systematically researches the historical, social, cultural, political, religious, economic and philosophical forces that partly determine and are partly determined by the character of education systems, and compares the resultant outcomes in two or more systems, areas or even globally.
>
> Ibid: 24

Most of the pioneering works on comparative studies of distance higher education systems considered in this chapter are at stage one of Halls' cited definition. This thesis of comparative study is an endeavour to reach stage two, that is, to conduct an intra-educational and intra-cultural analysis between Australia and China with reference to the mainstream system in the world. The author's attempt is towards a synthesis of positivist and relativist approaches. The first proposition (a DHE systems analytical framework) and the second proposition (a DHE systems typology) form a conceptual foundation for the investigation and comparative studies at stage one in this thesis. The proposition three (a DHE systems shaping mechanism) is designed to formulate a conceptual foundation for intra-educational and intra-cultural analysis in this thesis. The comparative study in this thesis involves some work at stage three as well, as it attempts to distinguish the fundamental conditions of educational change and persistence in distance higher education and relate these to philosophical principles. The basic ideas of the systems shaping mechanism is proposed in the form of the six point statements below and will be justified in the Conclusion.

A systems shaping mechanism

The third proposition of the conceptual framework in this comparative study concerns the systems shaping mechanism. This proposition is based on the assumption that distance higher education systems, their existing status and development trend can be studied by investigating the systems' endogenous and exogenous links and their inter-relationships grounded in their own national contexts and from a worldwide perspective. This third proposition therefore consists of the following six-point statements:

Statement 3.1: Two kinds of links and their inter-relationships.

Distance higher education systems, their existing status and development trend are shaped by two kinds of links - endogenous links and exogenous links and their inter-relationships. The endogenous links reflect the relationships and interactions between all elements within the systems, while exogenous links reflect the relationships and interactions between the DHE systems and their educational and societal environments.

Statement 3.2: Static mechanism of the particular systems.

Distance higher education systems in different countries tend to maintain their specific characteristics and models in a certain historical period. This is the result of interactions of

endogenous and exogenous links, ie. the outcome of unique historical development of these particular distance higher education systems in particular educational and societal contexts in their nations.

Statement 3.3: Cross-national general characteristics of distance higher education.

Various distance higher education systems in the world show some common features in their systems' structure and function, and some similar innovation trends and parallel development tracks. This shows that these systems have some general and relatively stable endogenous and exogenous links and the inter-relationships of both links.

Statement 3.4: The mainstream model and its influential role.

From the perspective of international interactions between various distance higher education systems, a certain kind of system which has dominated both the practice and literature tends to be identified as the mainstream model by the international community. By nature, the institutions of the mainstream model are a special kind of particular systems fitted to their national character as well, but they are usually identified as the standard or paradigmatic systems by the mainstream literature.

Statement 3.5: Dynamic mechanism of the particular systems

Distance higher education systems in any country are shaped by a dynamic mechanism with two kinds of tendency. One comes from their own historical tradition, existing status and the national contexts, the other increasingly comes from the interactions between various systems in the world, from the awareness of cross-national general characteristics of distance education, and especially from the mainstream paradigmatic influences.

Statement 3.6: Historical evolution

Distance higher education has its own evolutionary history. There are no permanently invariant endogenous and exogenous links and their inter-relationships, nor is there the permanent mainstream systems. The objective of comparative studies is not to identify the ultimate philosophical laws governing all the space-time, but to develop analogical studies with the progress of practice.

The third proposition, combining with the contextual dimensions of analytical framework and the systems typology, will be applied extensively in part III to explore the systems shaping mechanism for several selected critical issues of both distance higher education systems in Australia and China with references to the mainstream system in the world, and then will be justified and substantiated in the 'Conclusion'.

Summary

Notes

Part II

A Systematic Analysis of Distance Higher Education Systems in Australia and China with Reference to the Mainstream Model

Introduction

Part II consists of a systematic analysis of distance higher education systems in Australia and China with reference to the mainstream model. It contains four chapters (Chapter 3 to 6) which form a fundamental part of this thesis and set the scene for a comparative study of critical issues of both systems in Part III. This systematic analysis is based on the conceptual framework formulated in Part I.

Chapter 3

The Chapter 3 contained 21 pages (pp. 79-99) with 6.781 words originally

The Mainstream Model of Distance Higher Education and Its Conceptual Reflections

Introduction

This chapter examines the practice and theories of the mainstream model of distance higher education. In this thesis, the mainstream model referred to is the UK Open University and other autonomous distance teaching institutions in general. These are large scale distance teaching universities (mega-universities) in particular because they have dominated international literature on distance education and have had significant influences across national boundaries in the past two decades.

Section 3.1

The Mainstream Institutions of Distance Higher Education in the World and Their Conceptual Reflection in the Literature

Distance education has been identified as learning 'at the back door' (Wedemeyer 1981), second hand education or the Cinderella of the educational spectrum (Keegan 1986), an ignored and neglected step child of education (Peters 1993a), or similar for more than one hundred years. However, since the early 1970s, distance education and open learning have become frequently used

terms in educational literature and have attracted extensive attention from not only academic communities but also more generally in a wide range of national communities and particularly from a wide range of national policy makers. This historical turning point appears largely to have been due to the establishment of the Open University in United Kingdom and other subsequent autonomous distance teaching institutions set up elsewhere in various developed and developing countries. However, there were some forerunners to this new breed of autonomous distance teaching universities or colleges. In 1982, Keegan and Rumble pointed out the research work contributed by Peters in this aspect:

> When the German scholar Otto Peters undertook a fundamental comparative study of all distance teaching institutions in the Eastern and Western world in the early 1960s, his analysis of universities then teaching at a distance led him to the conclusion that "Distance teaching universities exist only in the Soviet Union and South Africa" (1965: 105).
>
> Keegan and Rumble 1982a: 23-24

Another important element should be added to his conclusion. In China a new kind of distance teaching universities, ie. the first group of metropolitan TV universities was set up in the early 1960s and university level courses were delivered and thousands of graduates produced before they were completely interrupted by the Cultural Revolution in 1966 (eg. refer to McCormick 1980: 129, 1982: 57; Dong, C. 1985: 561; and Xie & Li 1990; and see Chapter 4 for detail).

Nonetheless, the creation of the Open University in the United Kingdom can still be seen as the beginning of a more prestigious era for distance education. The reason for this is partly that neither the University of South Africa nor those independent correspondence universities and colleges in the former USSR and the first group of metropolitan TV universities in China generated such international interest and influence worldwide as the UK Open University has done. But why has the UK Open University in particular produced such interest and influence worldwide? A wide range of reasons have been put forward by various authors. The following list is representative but by no means intended to be exhaustive.

* The most significant contribution of the UK Open University was that it upset all the preconceived notions about distance education.

* The most convincing strength of the UK Open University was that it successfully resolved the basic problem of 'access, quality and efficiency' within a given context of resources. That is, the Open University opened and widened higher education to a variety of new groups of students; offered and delivered high quality course materials and student support services; reached an acceptable level of successful rates for course completions and graduations within reasonable costs. The following features have strengthened its attractiveness:

- It was achieved in the UK, generally considered as a politically and culturally conservative nation with strong traditional educational provision at the advanced level;

- Its educational quality, academic standards and credit, and institutional reputation have been evaluated publicly; justified and confirmed by the facts that its course materials have been adopted by other higher education institutions, its credits, certificates and degrees have been transferred to and/or accepted by other institutions for advanced study, and its graduates have been accepted by the labour market and employers.

- It changed a utopian vision of mass higher education by means of mass communication media into the practice and showed success in reaching economies of scale.

* The most important factor would seem to be that the UK Open University was set up and run in the UK, one of the centres of the Western world and Europe, having the most powerful propaganda and advertising media and using English to deliver its courses and ideas throughout the world, which seems in modern history to have a predominantly Western- or European-oriented bias.

There are now forms of distance education and open learning systems in almost every parts of the world and at a wide range of levels. The mainstream system represented by the UK Open University and other large scale autonomous distance teaching institutions plays a predominant and influential role. Along with the actual development of the new generation mainstream distance teaching institutions, there are theoretical reflections of these mainstream institutions, their organisation and administration, and teaching and learning practices contained in research and literature. These in turn have had a significant impact on practice and policy development of distance education community worldwide. These mainstream theories mainly include industrialisation theory and more recently the Fordist conceptualisation of distance education; the system's analysis and appraisal of the mainstream provision: their competitive and strategic advantages; and the theorising of distance teaching-learning including the generation of theories of information technology and distance education. These will be the themes of the remaining sections of this chapter.

Section 3.2

Industrialisation Theory and the Fordist Conceptualisation of Distance Education

It is increasingly apparent that distance education and open learning are a major growth area in contemporary education worldwide. One of the key elements supporting this expansion has been the application of industrialisation theory to distance education practice, research and policy-making.

Industrialisation theory of distance education

As the founder of the industrialisation theory of distance education, Peters has presented his theory in both German (1967, 1973) and English (1971b) papers since the 1960s. Peters's comparative research on distance institutions of all types throughout the 1960s (1965, 1968) led to

his characterisation of distance education as 'the most industrialised form of education'. Peters has updated his work and relined his theory throughout the 80s and 90s (1983, 1989, 1993b, 1996).

Peters postulated that distance education is a typical product of the era of industrialisation. This does not only mean that its structure and function can be interpreted by principles which govern the industrial production of goods, but also that distance education has been capable of meeting educational needs typical of an industrialised economy and society (1993b: 39, 57). Peters presented a comparison of distance teaching-learning and industrial production of goods in many ways under the following headings: rationalisation, division of labour, mechanisation and automation (technicalisation), assembly line, mass production, preparatory work, planning, organisation, scientific management and control methods, formalisation, standardisation, functional change, objectification, concentration and centralisation (monopolisation) (1967, 1971a, 1973, 1983).

Gradually, industrialisation theory has been accepted and has become the mainstream theoretical approach in the distance education community and international literature which in turn has supported a range of policy developments.

Fordist conceptualisation framework

Since the end of the 1980s, however, this industrial approach has been supplemented and extended through the application of the Fordist conceptual framework.

Campion and several other authors have argued that the industrialisation theory of distance education should be grounded in a more generally applicable industrial paradigm: the Fordist framework. In their view, the Fordist conceptualisation represents not only the factory system and the mechanisation of production, but also a market based theory, the principle of an articulation between mass consumption and mass production, and more broadly a political and socio-economic framework. They also pointed out that there has been an intertwined development between mass industrial production and scientific and technological progress.

King's commentary on Campion and Renner's work once again showed that Fordist conceptual framework as a paradigmatic interpretation of the industrialisation theory was identified in relation to the mainstream system of distance education:

> Campion and Renner equate the Fordist system (low product innovation, low process variability, and low labour responsibility) with institutions like the Open University OK, which are capable of providing courses to a maximum number of students in a highly ordered and relatively inflexible manner.
>
> King 1993b: 19

Section 3.3

The System's Analysis and Appraisal of the Mainstream Institutions: Their Competitive and Strategic Advantages

An important body of literature has been devoted to the studies of these autonomous distance teaching universities, their system's analysis and appraisal. Both *Distance Teaching for Higher and Adult Education* (1981) and *The Distance Teaching Universities* (1982) were published early and have had a significant influence on the latter's practice and on theory developments.

According to Kaye and Rumble's observation, it is the autonomous institutional model rather than the other models that attempt to develop the full potential of distance methods within a given context, and without relying over-much on traditional educational patterns and structures. The following is taken from the Kaye and Rumble's summary of the general features of autonomous distance teaching universities:

* the teaching, assessment and accreditation functions are integrated;
* the institution is totally committed to external students; hence academic staff have no conflicts between loyalties to internal and external students, and there is a strong motivation to develop and enhance distance-teaching methods, free from the constraints and traditions of face-to-face teaching;
* the institution is, in principle, far freer to devise new educational programs for new target groups, and to explore to a maximum the potential of distance-education methods in so doing;
* the institution is also freer to choose teaching methods and media, curricula, course structure, assessment procedures and accreditation policies.

Kaye & Rumble 1981: 17

Rumble and Keegan have drawn some similar conclusion on characteristics of the mainstream systems to those by Kaye and Rumble mentioned above (see Rumble & Keegan 1982b: 222-3). In the same book *The Distance Teaching Universities* (Rumble and Harry 1982), Keegan and Rumble contributed another article entitled 'The DTUs: An Appraisal'. The article evaluated the mainstream systems of autonomous distance teaching universities based on a five-point appraisal. As an overall assessment, Keegan and Rumble "believe that in general the DTUs have shown that:

* They enable new target groups who cannot attend a conventional university to enter the higher education sector.
* They can solve the problem of drop-out and produce graduates in significant numbers.
* They can help meet national, local and individual needs.
* The quality of their learning materials can be very high.
* They are potentially more cost-efficient and cost-effective than conventional universities.
* Cost-benefit analysis will tend to favour the DTUs because students are able to study at the same time as they are earning and contributing to GNP.

* Their degrees are gaining acceptance from conventional universities, employers, and the community at large.

Keegan & Rumble 1982b: 242

In 1995 the Executive Heads of the world's ten mega-universities (in China, France, India, Indonesia, Korea, South Africa, Spain, Thailand, Turkey and the United Kingdom) met in Birmingham on the occasion of the 17th World Conference of the ICDE. A brochure entitled 'Mega-Universities of the World: The Top Ten' compiled by the ICDL of the UKOU, was published in 1995. Daniel wrote a foreword for the Brochure and indicated:

> The development of the techniques of open and distance learning, and their application all over the world, has been the great story of education and training in the second half of the twentieth century. The most striking manifestation of the growth of open and distance education has been the emergence and success of the mega-universities described in this brochure. These are defined as institutions which have a student enrolment of over 100,000. Today there are ten such institutions.
>
> The mega-universities have broken out of the constraints of the eternal triangle of ACCESS, QUALITY and RESOURCES, which has traditionally limited the expansion of education. They have pioneered the expansion of access to universities in their respective countries; they have been standard bearers for equality of opportunity; and they have shown that increased student numbers can be accompanied by improvements in the quality of course materials and student support. ...
>
> According to a United Nations projection, the world's population is expanding at such a rate that it will increase by over one and a half million during the five days which span the ICDE Conference. The story of the mega-universities is a clear pointer to how we can provide the next generation of humankind with education and training worthy of the twenty-first century. The physical resources of the Earth may be finite, but the space of the intellect is in infinite supply.
>
> ICDL 1995: Foreword

At the Third International Interactive Multimedia Symposium held in Perth 1996, Daniel presented a keynote address with the title of 'New kids on the box: Distance education enters its third generation'. In the address, he showed his confidence in the future of mega-universities:

> The mega-universtities ... are important for the future of distance education because they have already effected a revolution in the cost-effectiveness of higher education. Although the cost-effectiveness of distance education in dual-mode institutions and small distance teaching universities is still a matter of debate, the case of the mega-universities is clear. All of them operate at a cost per student that is 50% or less of the average cost per student in conventional higher education in their countries. There is a similar ratio of costs per graduate.
>
> Assuming that the cost-effectiveness of higher education and training will be a vital issue in coming years the mega-universities will have an exemplary role.
>
> Daniel 1996a: 7-8

It is not difficult for a reader to find that in much of the distance education literature system's analyses and appraisals of the mainstream provision (autonomous distance teaching universities) have constantly shown their competitive and strategic advantages in comparison with other models of

distance education provision. But this is of course, challengeable and debatable. Chapter 8 will presents much more discussion in this matter.

Section 3.4

Theorising Distance Teaching and Learning

There have been a number of significant attempts at theorising distance teaching and learning, and as a result, various theoretical approaches to distance education have developed over last two decades.

Theoretical approaches to distance education

Over the last two decades, various theoretical frameworks have been developed which seek either broadly to encompass the whole of activity of distance education, or intensively to focus upon and theorise distance teaching and learning. Perraton's approach, which is in the form of fourteen hypotheses (1981) is an attempt to formulate a general theory of distance education. However, Holmberg's following comment is quite reasonable:

> A really comprehensive theory of distance education including all relevant and social aspects seems out of reach. The situation may well be different if theorising is limited to the teaching-learning process.
>
> Holmberg 1995a: 173

Theorising distance teaching and learning from the mainstream system institutions

The mainstream theorising of distance teaching and learning is based on the assumption that key characteristic of distance education is the separation in space-time between teacher and learner, ie. between teaching and learning processes. Thus, the communications between learner and teacher, ie. between learner and the supporting organisation are non-contiguous. In this way, distance education breaks the traditional space-time barriers of on-campus education and demonstrates more or less the feature of openness. In distance education systems non-contiguous communications are technically mediated. So distance education grows, develops and innovates along with the development of technology of industrialisation, especially modern information and telecommunication technology. The main challenge for distance education is to recreate, reorganise, reconstruct, or reintegrate the teaching-learning process at a distance through non-contiguous communication. Mainstream theorising of distance teaching and learning suggests that this can be achieved by both efforts coming from teaching and learning components. The teaching component, the role of teacher or supporting organisation is responsible for teaching delivered of two kinds: one-way communication in the form of multi-media pre-produced course materials (containing simulated interpersonal communication) and two-way communication between learner and teacher in the form of various student support services by various media including face-to-face sessions (representing real interpersonal communication). The learning component, the role of learner is characterised by independent study

and learning autonomy. The learners should innovate their learning strategies in new learning environments to recreate and control the teaching-learning process based on non-contiguous communication and interaction with the supporting organisation. It is argued in the literature that distance teaching and learning in the mainstream system institutions displays practical examples of this mainstream theorising of distance teaching and learning. At the same time, however, there are many debates about mainstream theorising of distance teaching and learning. Chapter 9 will present more reviews of mainstream theorising of distance teaching and learning and various debates about it, and their implications for both Australian and Chinese systems of distance higher education.

Summary

Chapter 4

The Chapter 4 contained 30 pages (pp. 100-129) with 8,745 words originally

The Chinese Distance Higher Education System: Structure and Function

Introduction

Since the end of the Cultural Revolution China has carried out a range of socio-economic reforms and a policy of increasingly opening the door to the outside world. In the rest 1990s and the next century it is to be expected that China will play a more active and important role in the international community and particularly the Asia-Pacific region. In the process of China's modernisation distance higher education has made a special contribution to both higher education and more generally to socio-economic development.

This chapter provides readers with a broad overview of China's distance higher education system, its structures and functions based on the conceptual framework proposed in Chapter 2. The chapter contains three sections.

Section 4.1 focuses upon China's national triple system of distance higher education with four major providers [1]:

* the first sector is Correspondence Higher Education (CHE);
* the second sector is Radio and TV higher Education (RTVHE) with two major providers, ie. Radio and TV University Education (RTVUE), and Satellite TV Teacher Training (STVTT); and
* the third sector is State Administered Examinations of Higher Education for Independent Study (SEHEIS).

Due to the space limitation of the thesis, the main text of this thesis treats China's RTVU education as the main representative of China's provision of distance higher education, while other providers are examined briefly when it is necessary.

Section 4.2 begins with a historical review of the origins and developments of China's RTVU education, followed by an intensive observation of its recent changes and trends in the later 1980s and the early 1990s.

Sections 4.3 examine the characteristics and models of China's RTVUs system, its structure and function at three levels and in both administration and operation subsystems based upon the analytical framework and the typology introduced in Chapter 2. Finally, a summary of China's distance higher education system is provided.

Section 4.1

Chinese distance higher education: a national triple system

This section first presents an overview of China's national triple system of distance higher education with four major providers. The section identifies different models for each of the four providers from the perspective of administrative and operational organisation:

* China's Correspondence Higher Education is identified as a separated model of dual mode;
* The Radio and TV University Education is a hierarchical multi-bodied model of single mode;
* China's Satellite TV Teacher Training is recognised as a course transmission centre model of quasi mode; and
* The State Administered Examinations of Higher Education for Independent Study is a state examinations model of quasi mode.

China's RTVU education is the main target of this thesis and will be examined in the next section (4.2 and 4.3). The remainder of this section contributes a brief review of the other three providers: China's correspondence higher education, satellite TV teacher training and state administered examinations of higher education for independent study.

An overview of China's national triple system of distance higher education

China has a nationwide triple system of distance higher education. Correspondence higher education refers to undergraduate education offered by correspondence divisions of regular higher education institutions (RHEIs) and independent correspondence colleges (ICCs). Radio and TV higher education refers to undergraduate education provided by Radio and TV universities (RTVUs) in China and China's TV Teacher-Training Institute (CTVTTI) at tertiary level. China began to run correspondence higher education in conventional universities and colleges in the early 1950s and

radio and television higher education in several metropolises in the early 1960s. Unfortunately, all of these initiatives were interrupted by the Cultural Revolution (1966-1976). Since the end 1970s, the CHE and RTVHE have grown and developed rapidly nationwide. Though there is still a debate about its nature and implementation, the significance of the state administered examinations of higher education for independent study (SEHEIS) has increased remarkably since its introduction in the early 1980s. After over one decade of development, a national triple system of distance higher education has taken shape. The system provides only higher education of undergraduate programs and not as yet any postgraduate degree programs. In China for postgraduate studies all students are enrolled in RHEIs. A wide range of study fields are offered by all three sectors of CHE, RTVHE and SEHEIS, including most fields of study in RHEIs in China. China's distance higher education is normally for in-service adult education and training though there is a small percentage of young school leaver enrolment. In the academic year of 1996-97 the total number of institutions providing distance higher education was 684, with total enrolment of 1,422,900, of which around 186,600 were young school leavers. The total entrants (commencing students) and graduates (completions) in 1996 were 483,500 and 400,200 (of which, 80,000 and 69,500 respectively were young school leavers). In 1997, there were about 5,000,000 person-course enrolments in China's SEHEIS system, and 300,000 graduates from it. China's distance higher education also provides a variety of other non-diploma education programs mainly for adults. These programs award various kinds of certificates but not diplomas or degrees at the tertiary level. Table 4.1 summaries the major features of China's four providers of distance higher education (see below).

China's correspondence higher education (CHE)

Correspondence and evening education programs provided by the People's University of China (PUC) in Beijing in 1953 marked the beginning of correspondence higher education and evening education in China. Since then, with the exception of the interruption of the Cultural Revolution (1966-1976), correspondence and evening education have represented adult higher education programs offered by those RHEIs which have full-time advanced learning for young school leavers as their main task.

Table 4.1 The Main Features of China's National Triple System of Distance Higher Education*

Correspondence Education	Radio and TV Education		State Examinations for Self-Study
	Radio & TV Universities Education	Satellite TV Teacher Training**	
Foundation date			
1953	1960 / 1979	1986/1987/1993	1981
• First correspondence division was set up by People's University of China in 1953	• First group of metropolitan TV universities were set up in the 1960s • China's national RTVUs system was founded in 1979	• China began transmit satellite TV education programs in 1986 • China's TV Teacher Training Institute was set up in 1987;	• State Examinations of higher education for self-study was first introduced in several metropolises in 1981
Provision in 1997-98			
• 635 regular higher education institutions have built up their correspondence divisions/schools • 4 independent correspondence colleges	• 1 Central Radio & TV University • 44 Provincial RTVUs • 823 branch schools • 1,713 work stations • Over 13,176 TV sites (classes)	• China's TV Teacher Training Institute • Various education colleges teacher training schools • The national RTVUs system	• National Guidance Committee • Provincial Guidance Committees • Various examinations holder regular higher education institutions • Various learning support units.
Student numbers in 1996-97			In 1997
• Enrollments: 896,300 • Entrants: 286,400 • Graduates: 212,300	• Enrollments: 526,600 • Entrants: 197,100 • Graduates: 187,900	(Not calculated independently)	• Enrollments (unit: person-course): 5,000,000 • Graduates: 300,000

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Programs			
• Normal undergraduate studies awarding university diploma and degree • Short-cycle undergraduate studies awarding college diploma	• Short-cycle undergraduate studies awarding college diploma mainly • Normal undergraduate studies awarding university diploma and degree • Various non-diploma programs awarding certificates only for adults	• Normal undergraduate studies for senior high school teachers • Short-cycle undergraduate studies for junior high school teachers • Various non-diploma programs for in-service teacher training	• Normal undergraduate studies awarding university diploma and degree • Short-cycle undergraduate studies awarding college diploma in both fundamental & specialized programs
Curricula and courses			
Most fields of study & disciplines in universities	Most fields of study & disciplines in universities	Teacher training courses	Most fields of study & disciplines in universities
Target groups			in 1996-97
Adults mainly	Adults mainly (School leavers: 35% of total)	In-service teachers in senior and junior high schools	Any applicants by independent study without limitation
Types of enrollment and learning strategy			
• Part-time and spare-time • Group based: Correspondence • Classes in work places • Compulsory pace of study	• Full-time, part-time and spare-time • Group based: TV Classes in work places or RTVUs • Compulsory pace of study	• Spare-time; • Group based or individually in the schools • Compulsory pace of study	• Spare-time; • Individually in most cases and in groups occasionally • Flexible pace of study
Educational technology and instructional media			
• Printed course materials • A few audio-visual materials • Correspondence tutorials • Face-to face tutorials	• Printed course materials • Nationwide and local radio & TV programs by satellite, cable and microwave networks and at semester-end • Face-to-face tutorials • A few CAI & multimedia courseware • A few initials in using computer and tele-communications networks	• Print course materials • National TV programs by satellite • A few other audio-visual materials • Face-to-face tutorials	• Printed course materials • A few audio-visual materials; • Face-to-face tutorials by various kinds of institutions & organizations • Other audio-visual materials
Model of organizational and administrative structure and function**			
Separated model of dual mode	Hierarchical multi-bodied model of single mode	Course transmission center model of quasi mode	State examination model of quasi mode

Note: * This table has been updated – Xingfu Ding 1998.
** China's TV Teacher Training Institute (CTVTTI) has become a part of China's Central Radio and TV University (CRTVU) since 1993.

Followings are the main characteristics and models of China's correspondence higher education system in structure and function at the national, institutional and micro levels.

At the macro level - the national system

Correspondence higher education in China is provided mainly by Correspondence Divisions of RHEIs in dual mode. Only a few independent correspondence colleges (there were 4 ICCs in 1996-97) can be recognised as autonomous mono-institutional model of single mode. The RHEIs in China are run by the SEdC and various departments (commissions and ministries) of the State Council, and by local governments. As a result, the CHE attached these RHEIs provide courses nationally, within particular kinds of economic or industrial sectors, and locally. In addition, the CHE offered by various RHEIs provides different educational programs in various study fields and specialities and bring institutional priorities and highly competitive programs into full play.

Chinese correspondence education provided by RHEIs represents an example of a less industrialised form of education in comparison to large scale DTUs. The average enrolment in each institution is around one thousand. Mass tele-communications facilities are not available. Instruction is still based on printed course materials, correspondence and face-to-face tutorials.

At the median level - the institutional structure and function

Most RHEIs providing correspondence education have established a separated administrative body titled Correspondence Division (CD), but the correspondence teaching and assessing are still conducted by various departments. Only a few RHEIs (eg. the People's University of China in Beijing, Tongji University in Shanghai etc.) have set up independent Correspondence Colleges or Schools (CCs or CSs) for both administrative and instructional functions, they should be recognised as examples of the segregated model of dual mode provision.

China's CHE is operating with a separated dual model. Different groups of academic staff teach and assess on- and off-students. Correspondence programs, curricula, syllabi and course materials are specifically designed for correspondence students only and are different from those for full-time study. In addition, assessment, accreditation and awarding systems are also different and separated. Finally, the two types of students will be awarded different types of diplomas and degrees, but their standards at same level are required to be equivalent. In other word, there are two subsystems for the operation of full-time and correspondence instruction parallel to each other in each institution.

There are three kinds of correspondence work station (CWS) used by different providers. These are institutional, local and departmental run CWSs. All CWSs are responsible for organising and managing attached Correspondence Classes (CCls) on behalf of the sponsored RHEIs.

At the micro level - the learning group

The basic structure of correspondence teaching-learning in China is independent study in part-time or spare-time under the guidance of correspondence tutors with regular face-to-face tutorials in the semesters, and intensive face-to-face tutorials before the examination at the end of each semester. The main course materials are printed correspondence textbooks and study guides with readers and set books. Over the past decade print materials have been supplemented with some audio and video materials. It is identified as a consultation model of correspondence teaching mode.

Group based learning in the work place is a common element of Chinese correspondence education. Students are usually organised in Correspondence Classes (CCls) and several classes are under the management of a CWS. Compulsory pacing is a key feature of correspondence teaching and learning in China.

China's Satellite TV Teacher Training System

Since 1986, China has begun to use the special satellite to transmit TV education programs for teacher training nationwide. A new broadcasting organisation named the Chinese Educational Television (CETV) was founded and given the responsibility for completing the Satellite TV Education (STVE). Actually, the initial idea of introducing satellite TV education into China commenced in 1978 when the foundation of a national RTVU system was planned. According to

Vice-Premier Fang's speech (Fang 1978: 1), Mr. Deng, the Vice-Chairman of the Central Committee of CPC at that time, suggested buying a broadcast and/or communication satellite and rapidly developing satellite TV education. After that, there were several domestic proposals on using satellite TV programs for teacher training nationwide. Early of 1986, Dr. Carl Bock, a educational adviser from Federal Germany presented a research report entitled 'A Proposal on Training Primary School Teachers' to China's SEdC. The Report pointed out that "Teachers and educators are workers who put programs into 'computers' - people, their qualification is extremely important. In a sense, this will determine the society's future as a nation"; "It should be that no one who has not received formal pedagogical training is allowed to teach children". The Report suggested "building up a radio, TV and correspondence educational system to conduct teaching nationwide" for the training of the young generation of teachers and for in-service training for current teachers (retranslated from Chinese, refer to Ding 1986b: 7). Mr. Li Peng, the Vice-Premier and Minister of SEdC at that time, accepted that Report and decided to rent a satellite from the International Satellite Organisation and to open the satellite education in 1986. In 1987 the China's TV Teacher-training Institute (CTVTTI) was formally set up by the SEdC to be responsible for the Satellite TV Teacher Training (STVTT) nationwide. The second special satellite TV channel for education (CETV) has operated since 1988.

China's Satellite TV Teacher-Training has its own system and characteristic structure and function which can be identified as the course transmission centre model. Since 1993, CTVTTI has become a part of Central Radio and TV University (CRTVU).

At the macro-level - the national system

The CTVTTI, under the leadership of the SEdC and its department of Electrification Education Bureau, is responsible for nationwide planning, organising and managing of in-service training for primary and secondary school teachers. The CTVTTI has only a few administrative staff but no academic staff. Its main task is to collaborate with China's Higher Education Publishing House, China's People's Education Publishing House and various regular higher education institutions in the design, production and distribution of educational programs, curricula, syllabi and various course materials for teacher training in a variety of study fields by academic staff in RHEIs.

The CETV is responsible for transmitting teacher training programs via special satellite TV education channels.

At the median level - the institutional structure and function

Those adult teacher training institutions such as Education Colleges, Teacher Training Schools, and also local RTVUs can run schools or classes for teacher training by using the course materials and TV programs transmitted by CTVTTI and CETV. These institutions are responsible for organising students classes, teaching, assessment and examinations, and awarding their own diplomas or certificates.

At the micro level - the learning group

In-service teachers at primary and secondary schools are organised in groups and learn courses by reading printed materials, watching TV programs and attending face-to-face tutorials organised by registered institutions.

China's State Administered Examinations of Higher Education for Independent Study system

A national examination system called State Administered Examinations of Higher Education for Independent Study (SEHEIS) was introduced, first in several metropolises in 1981, then in all parts of the nation in 1983 (refer to ME of SC 1981). From 1981 to 1990 a total of 524,644 short-cycle and 3,785 normal undergraduate diplomas, and 859 bachelor degrees were issued. In 1990s, the SEHEIS provided examinations of courses in 142 specialties (in 1993), and received a total of 4,838,100 applications and awarded 127,100 undergraduate diplomas (in 1997). More and more commentaries have recognised it as a distinct part of China's national triple system of distance higher education (Yang 1992).

There are three principles of SEHEIS system in China - independent study is the basis, learning support services are provided by various societies and state administered examinations are the core of the system. The SEHEIS provide both normal and short-cycle (including specific and fundamental) higher education diplomas (refer to ME of SC 1981, Yang 1992).

At the macro level - the national system

There is a National Guidance Committee (NGC) of State Administered Examinations of Higher Education for Independent Study approved by the State Council and the 13 Professional Committees and 1 Examination Research Committee under the National Guidance Committee, and an Office of SEHEIS in the SEdC. In addition, there are Provincial Guidance Committees (PGC) and the Offices of SEHEIS in each province, autonomous region and municipality. The responsibilities of these Committees and Offices are for policy-making, planning, co-ordination and quality control of SEHEIS nationwide or regionally. There are Working Committees or Units and the Offices of SEHEIS in prefectures, cities and counties, responsible for organising the examinations.

At the median level - the institutional structure and function

The Examinations Holder Institution (EHI) for a certain specialty is chosen and approved by the PGC of SEHEIS. It should be a well known RHEI in that study field and its specialty should have a good reputation for its academic staff and educational conditions. The EHIs are responsible for deciding the standards of examinations, assigning the questions sheets of examinations, organising the work of marking and accreditation and the practical work (experimental or laboratory work, field exercise and thesis, etc.) for examinees. In addition, the EHIs jointly with PGC of SEHEIS issue the diplomas. But by the regulations, the EHIs must not organise tuition for examinees in those courses

examined by them. That means that tuition must be separated from the assigning of examination questions.

At the micro level - the learning group

Examinees can choose to study independently and/or receive the learning support services provided by various departments and societal organisations or institutions, including various tuition classes such as TV, correspondence and face-to-face tutorials.

Section 4.2

Origin and Development of China's RTVU Education

This section first reviews the origin of China's RTVUE in the 1960s and its rapid development from the end of the 1970s to the mid 1980s, followed by an examination of the further innovations and significant changes in China's RTVUs system since the second half of the 1980s.

The first group of metropolitan TV universities in China in the 1960s

China was one of the first countries to use radio and television for higher education purposes. The first group of metropolitan television universities was set up in 1960s when television (black and white) usage became widespread in those metropolises. The Beijing Television University (BTVU) was the first one set up in 1960. Shanghai, Shenyang, Harbin and Guangzhou (the capital of Canton province) followed suit (Dong 1985: 561, Xie & Li 1990a) (see Table 4.2 below).

Table 4.2 China's First Group of Metropolitan TV Universities From 1960 to 1966

Metropolis	Founding date	Courses Delivered	Number of Total enrolments	Number of total Graduates / Completions
Beijing	Feb. 1960	Math, Physics, Chemistry, Chinese; Speciality of English	-	8,000/50,000
Shanghai	April 1960	-	10,293	1139
Shenyang	1960	Chinese, Politics, Russian, English	-	805/10,471
Harbin	1959/1960	Chinese, Russian, English	7,000	405
Guangzhou	Sep. 1961	-	-	-

Source: Xie & Li 1990a: 7, 196, 294, 300, 795.

The foundation of China's national RTVUs system and its rapid development in the first half of the 1980s

The Cultural Revolution (1966-1976) severely eroded higher education in China. By the end of the 1970s, China had entered a new historical era. Since then socio-economic reform and the policy of opening the door to the outside world have become key elements in the national agenda. In order to achieve the goal of modernisation in socio-economic development there has been a huge and urgent demand for highly qualified professional personnel and a knowledgeable and skilled labour force.

In 1981, there were 704 regular higher educational institutions with a total enrolment of 1.28 million in China. Only one in 20 high-school leavers went on to higher education, where only 1.4 per cent of the relevant age group was taught in the RHEIs. Only 140,000 graduates came from these institutions in the same year. It was likely to be far too low for the needs of China's modernisation construction. Modernisation requires trained and educated people. The Chinese government had now committed itself to socio-economic change that depends on such people. The need for vastly increased numbers of college and university level graduates was at the heart of these plans. By the end of the 1970s, it was clear that China could not afford to expand quickly a relatively expensive regular higher education system. Intake could be increased, but on-campus residential and teaching accommodation was a limiting factor, and as was the number of qualified academic staff. Instead, the Chinese Government decided to adopt a new strategy for increasing the number of college graduates in urgently needed fields quickly. The core of the new strategy was to create and expand a new national radio and TV education system that could cost less per capita and which would spread fast throughout China.

Mr. Deng Xiaoping met former British Primary Minister Heath while he visited China in 1977, and talked about the shortage of qualified professional personnel and undeveloped higher education in China. Mr. Heath spoke of the achievements and experiences of the Open University to Mr. Deng. Later Mr. Heath sent a letter to Mr. Deng expressing his wish to help China to initiate a university of the air and providing information about the UKOU. By then, a colour television network had been built throughout the China (excluding Tibet). Hence the basic technological conditions for the establishment of a national radio and TV education system were in existence. Mr. Deng Xiaoping appointed the former Vice-Premier Fang Yi to take the responsibility of the new system. On February 6th of 1978 Mr. Deng, on behalf of the State Council, approved the report jointly submitted by the Ministry of Education and the Central Bureau of Broadcasting on the Founding of A National Radio and Television Universities System (CRTVU 1989a: 1-3). After one year of preparation, the Central Radio and TV University (CRTVU), based in Beijing, and another 28 Provincial Radio and TV Universities (PRTVUs) (except Taiwan and Tibet) were set up. On February 6th 1979 CRTVU first transmitted courses via the microwave network of China Central Television (CCTV) (refer to Ding 1994c: 334).

From the end of the 1970s (1979) to the mid of the 1980s (1985), China's radio and TV higher education developed rapidly. A national RTVUs system and its structure and function achieved maturity and achieved international recognition for its performance and achievements. Up to 1985, China's Radio and TV Universities had provided nearly a hundred specialties programs in various fields of study including sciences and engineering, teacher training, humanities, economics, business and management and so on. All of these programs awarded short-cycle higher education diplomas. The annual new entrants had grown from 97,800 in 1979 to 273,100 in 1985, increasing almost three fold in six years. The total enrolments which had reached 673,600 in 1985, accounted for 40% and 64% of total enrolments in all RHEIs and other AHEIs in China respectively. That is, in 1985, among all higher education students in China, one of every five was studying in RTVUs. In addition, there were a great number of single course students and free listener-viewers in China's RTVUs system. In 1985, the nationwide system of RTVHE had formed its unique structure and large scale. There were one central RTVU, 35 provincial-level RTVUs, about 600 prefectural-level Branch Schools, around 1,100 county-level work stations and over 30,000 TV classes that cover urban and rural areas throughout China. There were 24,754 full-time staff (in which 11,229 were full-time academic staff) and 15,795 part-time academic staff according the statistics by the SEdC (refer to Xie 1989a, 1989b, Ding 1989a: 122-75).

Significant development and remarkable changes of China's RTVUs education since the second half of the 1980s

Generally speaking, from the mid of the 1980s (1986) till now, China's radio and TV higher education has continued to develop significantly. Since 1986, China has begun to use the special satellite to transmit TV education programs for various purposes. The CETV was founded and given the responsibility of transmitting the Satellite TV Education (STVE) programs, including the courses provided by CRTVU and CTVTTI. In 1990 China Liaoyuan Radio and TV School was set up within the CRTVU, aiming to stimulate the education of the rural population.

In addition, after continuing investment from governments at various levels including the World Bank Loan Project, the infrastructure of RTVUs system including a national broadcasting network with both CCTV and CETV involved has reached a reasonable scale. Also since 1986, the SEdC approved that the RTVUs could accept the nationwide enrolment of fresh school leavers, who passed the National Unified Entrance Examinations (NUEEs) for RHEIs (SEdC et al 1986). In the past decade, diploma and non-diploma educational programs at various levels and in a wide range of study fields, disciplines and specialties offered by RTVUs have increased and expanded dramatically. Up to 1993, CRTVU had offered 300 courses of 21 disciplines in 5 study fields that cover sciences and engineering, teacher training, humanities, economics, business and management, and agriculture. The PRTVUs also provided their own education programs to meet the specific needs locally. The total number of specialties for short-cycle higher education studies offered by CRTVU and PRTVUs reached into the hundreds. In the same period, CRTVU and PRTVUs have coordinated the

development of non-diploma education with diploma education. From 1986 to 1993, only CRTVU has cooperated with some ministries and commissions of the State Council to provide 38 non-diploma education programs of which there have been more than 3 million completions. In addition, the regional RTVUs and Branch Schools also have provided their own non-diploma education programs according to local needs, so the total number of completions have been more than 10 million. Since the late half of the 1980s, the transmission hours of TV programs have increased dramatically from 1,320 class hours (33 class hours per week: a class hour lasts 50 minutes) at the beginning of the establishment of CRTVU to 5,558 class hours per year. Of which, 4,368 class hours per year (ie. 12 class hours per day) were transmitted by CETV via satellite, 880 class hours per year (ie. 22 class hours per week) by CCTV, and another 310 class hours per year by CETV specially for transmitting programs offered by the Liaoyuan School (CRTVU 1993a).

However, since 1986 there have been some significant changes and trends developing, which have had a great impact on China's RTVUs system. The main change was more strict control over the development of RTVUs' diploma education (ie. short-cycle courses) from the SEdC.

* The free listener-viewer system in RTVUs was abolished in 1986 (refer to SEdC 1986a), which was introduced by the State Council at the foundation of RTVUs in 1979 (refer to CRTVU 1989a: 5, 8 & 10).
* The transfer system from single course programs to short-cycle diploma programs was also abolished in 1986, which was also introduced by the State Council at the foundation of RTVUs in 1979 (refer to CRTVU 1989a: 18-9, 23 & 123-4).
* A National Unified Entrance Examinations (NUEEs) for AHEIs was set up in 1986. Since then, all new entrants to RTVUs have to pass the NUEEs for AHEIs organised by the SEdC and the Entrance Committees for AHEIs in provinces, not by the RTVUs themselves (refer to SEdC & the Ministry of Finance 1986).
* A rigid limitation of annual new entrants for both adult and school leaver was introduced in 1986. It has been given to the whole RTVUs system and allocated to each PRTVU by the SEdC since 1986 (refer to SEdC & the Ministry of Finance 1986, SEdC 1986b).

One of practical results of these policy changes by the SEdC was a serious reduction in the numbers of new entrants, graduates and enrolments for short-cycle higher education programs in China's RTVUs system since 1986. According to the statistics by the SEdC, the number of new entrants has declined from 273,100 in 1985 to 103,500 in 1991, the number of graduates from 275,000 in 1988 to 98,000 in 1993, and the number of enrolments from 673,600 in 1985 to 330,400 in 1992. As a result, there was only one RTVU student in every 13 undergraduates in 1991, sharply down from 1 in every 5 in 1985 (DPC of SEdC 1985-1992). At the same time, because the principal mission for China's RTVUs was short-cycle higher education, the wastage of investment and resources due to the reduction in the number of mainstream students was serious and the cost-efficiency and cost-effectiveness of RTVUs education have declined since 1986. Nevertheless, Since

1992 there has been a new trend of recovery in diploma education for RTVUs. So in 1993, there were 213,300 new entrants and 437,900 enrolments respectively. In 1994 a document entitled „The Opinions for Carrying Out the Development Outlines of Chinese Education in RTVUs" was approved by the SEdC. As a result, the registered-listener-viewer system similar to free-listener-viewer system has been resumed since 1995 and the formal undergraduate programs (ie. university level diploma and bachelor degree) with short-cycle courses graduates as commencement will start to deliver in the later 1996. This can be seen as a outcome of the continuing efforts by the RTVUs in the past decade.

These changes, trends and their significance will be examined from various perspectives later (see Part III, Section 7.2, 8.2, 9.2).

Section 4.3

China's National Radio and TV Universities System

After more than one decade of development, China's Radio and TV University Education (RTVUE) has taken shape. The main characteristics and models of the RTVUs system in structure and function at the national, institutional and micro levels follow.

At the macro level - the national system

China's RTVUs System has a unique organisational structure in administration and operation with five layers parallel to the structure of China's administration of governments.

1. Central layer: the Central Radio and TV University (CRTVU), based in Beijing, is the heart of this national system. It was run jointly by the Ministry of Education and the Ministry of Broadcasting in 1979, and since 1984 by the State Education Commission.
2. Provincial layer: the Provincial Radio and TV Universities (PRTVUs). There are 31 provincial level governments (including province Taiwan and new established province Hainan in 1988) in China. Of these 23 are Provincial, 5 are Autonomous Regional, and 3 are Municipal. Each of them (except Taiwan and Tibet) has established a PRTVU. In addition there are 15 cities listed as independent planning entities, each of these also operates a independent PRTVU. So there are 44 PRTVUs altogether.
3. Prefectural or civic layer: the Branch Schools (BSs). There are nearly 330 prefectures and prefecture-level cities in China. Most of them have established Branch Schools attached to the national RTVUs system and corresponding PRTVUs. Also there are hundreds of Branch Schools run by various departments of economic and industrial sectors and other societal organisations or institutions.
4. Counties' layer: the Work Stations (WSs). There are more than 2,200 counties and equivalent administrative units in China. Many of them have set up Work Stations attached to local Branch

Schools. In addition there are many Work Stations run by departments of economics and industries and other societal organisations and institutions.

5. Grass-roots layer: the TV Classes (TVCls). The TV Classes are the grass-roots level of China's national RTVUs system, most of them are run by various grass-roots units in Chinese society, or by RTVUs at various layers, by various departments and other societal organisations and institutions.

China's RTVUs System operates on the basis of "overall planning, running schools and managing at various layers" with the CRTVU as its centre (see different responsibilities of each layer of RTVUs system below for a detailed description).

There is a central authority titled the Electrification Education Bureau between 1985-1993 and the Electrification Education Committee/Office since 1994, as a department of SEdC, which is responsible for national planning, policy-making, macro-adjustment, control and management of the overall Electrification Education (EE) including RTVUE, reporting to a Vice-Minister of the SEdC directly.

Both largest national TV networks in China, the China Central Television (CCTV) and the Chinese Educational Television (CETV) give their support and services for the RTVUE. The CCTV, under the leadership of the former Broadcasting Ministry, now the Radio, Film and TV Ministry, provides its transmission services through an agreement between the Radio, Film and TV Ministry and the SEdC, while the CETV under the leadership of the SEdC directly, gives its support and services to educational programs including RTVUE. In addition, the regional and local radio and TV broadcasting networks at provincial, prefectural or civic, and county's levels throughout China provide their support and services to regional and local RTVUE coordinated by the regional and local governments and relevant departments.

China's RTVUs education system represents one of the most industrialised form of distance education in respect to its large scale of mass education, mass broadcasting network nationwide, rationalised operation, bureaucratic administration, economy of scale and numerous other features.

At the median level - the institutional structure and function

Administration subsystem

The RTVUE represents a single mode provision in China, that is, it is run by a newly established national system exclusively for distance learners.

According to the general basis of operation - "overall planning, running schools and managing at various layers", the institutions at various layers of China's RTVUs System have different administrative and academic responsibilities (above regulation statement and all responsibilities for RTVUs institutions at various layers are drawn from the Temporary Regularities of China's Radio and TV Universities, issued by the SEdC in May 16, 1988, refer to Xie 1989b: 12-3 as well).

1. CRTVU:

   a. Produce the curricula for RTVUs and ensuring that the curricula include all the subjects which are recognised as of interest nationally, and offer the key courses in each of these subjects;

   b. Produce syllabuses, radio and TV programs for these key courses. Write, edit, publish and distribute multi-media materials for these courses;

   c. Set end-of-semester national unified examinations for these key courses and ensure that marking is standardised, and draw up national examination timetables;

   d. Train teachers, technicians and administrative staff;

   e. Conduct research on higher education through distance learning;

   f. Direct and supervise the instruction and teaching administration of PRTVUs and co-ordinate academic work when it is shared by more than one PRTVU.

2. PRTVUs:

   a. Produce courses in subjects which are of specific interest to their region;

   b. Produce syllabuses, TV and radio programs, write course materials and supplementary materials for the courses they have produced;

   c. Set end-of-semester examinations for their own courses and mark them. Timetable the examinations set by CRTVU and mark these papers;

   d. Ensure that teachers follow set administrative and examination procedures. Enrol new students, keep student records and issue diplomas and certificates;

   e. Train teachers and keep abreast of new teaching methodology. Promote the interchange of ideas on the running of local RTVUs' institutions;

   f. Direct and supervise the teaching and administration work done in branch schools and work stations.

   g. Provide advice, guidance and help to students with academic/personal problems.

3. Branch Schools:

   a. All aspects of timetabling. This includes timetables for watching TV programs, tutorials, examinations, tests, laboratory work and field studies as set out by CRTVU and the regional PRTVU.

   b. Ensure that the teachers follow the set administrative and examination procedures. Ensure that course syllabuses are adhered to;

   c. Set up work stations and TV classes and direct and supervise their work;

   d. Provide advice, guidance and help to students with academic/personal problems.

   e. Issue diplomas and certificates;

   f. Administer established courses in the subjects which are of specific interest locally.

4. Work Stations:

a. Recruit teachers and tutors;

b. Organise TV classes and maintain high teaching standards. Timetable tutorials, laboratory work and field studies. Distribute teaching materials;

c. Provide advice, guidance, and help to students with academic/personal problems.

Operation subsystem

Until early 1996, by the decision of SEdC, the RTVUE in China only provides short-cycle (junior college level) undergraduate studies but not normal university level undergraduate and postgraduate studies. A wide range of short-cycle higher education diploma programs in various study fields, disciplines and specialties have been offered by the CRTVU nationwide and also by regional PRTVUs and some Branch Schools to meet local needs.

China's RTVUE provisions are mainly for in-service adults, but also accept some young school leavers. In addition distance learners in RTVUs can chose study types of full-time, part-time and spare-time.

The institutions at all layers of China's RTVUs System have their own full-time staff, including academic staff, and employ some part-time academic staff recruited from other higher education institutions, research institutes, related business companies and so on.

In China's RTVUs education system, the course materials are mainly developed by individual academic staff. The main textbooks are mainly written by outstanding professors or senior lecturers who are chosen from various RHEIs and work part-time for RTVUs. The TV and radio programs are also presented by these professors and lecturers. The study guides and other supplemental materials are produced by full-time academics of RTVUs at various levels. There are not professional staff such as educational technologists and instructional designers to support academics in course development.

At the micro level - the learning group

Group based learning in the work place is a common element of Chinese RTVUs education. Students are usually organised in the TV classes and several classes are under the management of a work station. Compulsory pacing is a key feature of teaching and learning in China's RTVHE. It is organised in the form of regular receiving of radio and/or TV programs, compulsory face-to-face tutorials in the classrooms and also by compulsory paced assignments and the marking timetable. Accordingly, China's RTVUs are run in the form of a semester system (two semesters each year). It is a less open and flexible model.

The basic structure of distance teaching-learning in China's RTVUs System is: independent studying of print materials; regularly watching the TV or programs on video cassette and listening to the radio programs or audio cassettes in groups, usually in the fixed classrooms located in their grass-roots unit; regularly attending the face-to-face tutorials in the classrooms; completing and

sending the homework and regular assignments and getting the feedback (marking and comments) from their face-to-face tutors for every course; taking assessments and end-of-semester examinations. Some courses require laboratory work (or can be completed using experimental kits at home) and other types of practical work; such as the field exercises, teaching practice, social surveys, course designing and so on. The short-cycle higher education diploma programs also require students to complete some kind of graduate designing or graduate assignment before awarding the diplomas.

China's RTVUs Education uses TV broadcasting programs on a large scale. There are not only a great number of total transmission hours annually (eg. 5,558 class hours in 1993, 50 minutes each class hour, and nearly 9,000 class hours in 1997), but also substantial transmission hours for each single course and watching hours for every individual learner. It is identified as an industrialised form of second generation distance education using mass media for delivery and a AV (audio-visual media) substantial model of multi-media teaching. In addition, it is also recognised as a substantial face-to-face tutorial model.

The administrative and academic responsibilities of TV classes:

a. Drawing up class timetables each semester;

b. Organising the viewing of and listening to course programs. Arranging tutorials, laboratory/experimental work and other practical works;

c. Encouraging students to take part in physical education and recreational activities in their spare time;

d. Maintaining contact with the work units to which their students are attached.

For short-cycle higher education diploma students in China's RTVUs system, there are two basic schooling systems: 3 years of full-time studies or 4-5 years in part-time and spare-time studies, and 2 years of full-time studies or 3 years and more in part-time and spare-time studies. Most young school leavers are registered as full-time students. A proportion of in-service adults are permitted to leave their work for full-time studies of 2-3 years. Most part-time in-service adult students are permitted to leave their work 2 days per week for studies of 3-5 years, while for spare-time in-service adult students, in some cases they are permitted to leave their work 2 half-days per week for studies in 3-5 years, and in other cases they study totally in evening and weekend. All credits can be accumulated and kept effective in ten years.

There were three kinds of registration status for short-cycle courses diploma students: Formal Registered Undergraduates for Full Courses (FRUs), Single Course Students (SCSs), and Free Listener-Viewers (FLVs).

1. Formally registered undergraduates for full courses (FRUs) must have graduate certificates of senior secondary education or equivalents as the prerequisites and pass the National Unified Entrance Examinations (NUEEs). Usually, their applications for study in RTVUs should be

approved by their working units first and then they can receive some kinds of financial support and work-leave permission from their units. In most cases, they are all organised in the TV classes at the work place and study full-time or part-time.

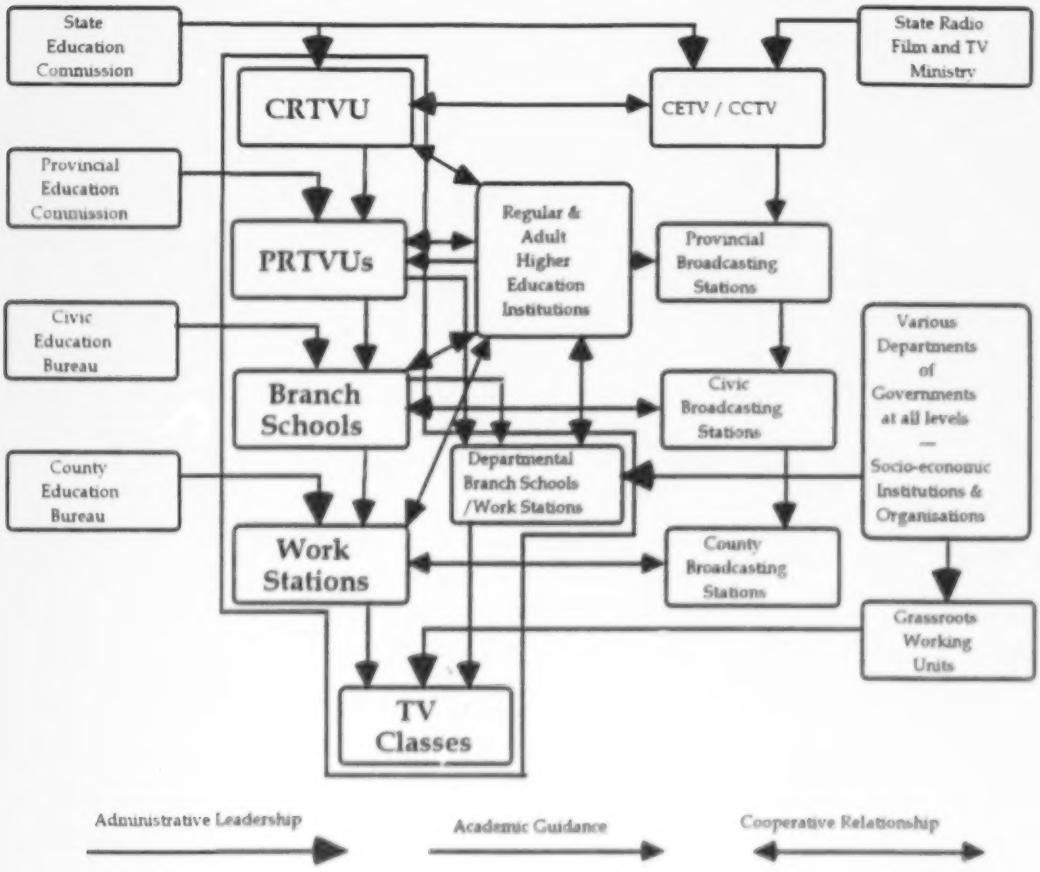
2. Single Course Students (SCSs) are usually registered for one or a few courses in each semester. They may or may not pass the NUEEs and usually study in groups or individually in their spare-time. After passing the final examinations at the end of semester, they can acquire the credits of the courses. Some of them study in order to update their knowledge and skills of some particular subjects, they do not pay attention to whether or not they can get a diploma. Another group study for a short-cycle higher education diploma by accumulating required credits and completing all learning activities required by a certain speciality program successfully.

3. Free Listener-Viewers (FLVs) study either for full courses or for a few courses in spare-time. They may not pass the NUEEs and study individually or in groups. They may not receive full support from their working units. They can apply and take part in the course examinations at the end of semesters, and will acquire credits after passing course examinations. Also they can receive a short-cycle higher education diploma by accumulating required credits and completing all learning activities required by a certain speciality program successfully.

There is a variety of non-diploma programs ranging from post collegiate continuing education to middle and lower levels vocational and technical education and training in China's RTVUs system. Non-diploma education is usually in the form of short-term programs consisting of several relevant courses and awarding some kinds of certificates. The non-diploma education students are in-service adults who are studying for upgrading or updating. They are organised in groups at their work places and study part-time or spare-time. There are no entrance examinations for various non-diploma education programs. They are taught using multi-media course materials plus face-to-face sessions.

China's RTVUs system analysed here can be identified as hierarchical multi-bodied model of single mode, or simply China's RTVUs model. The five-layer structure of China's national RTVUs system and the relationships of administrative leadership and academic guidance under corresponding governments and their educational departments, and also the co-operative links with broadcasting organisations and other higher education institutions at various levels, are illustrated in Figure 4.2.

Figure 4.2 The Administrative and Organisational Structure of China's RTVUs System



Summary

China has a nationwide triple system of distance higher education: correspondence higher education (CHE), radio and TV higher education (RTVHE), and state administered examinations of higher education for independent study (SEHEIS).

China's correspondence higher education has both single and dual modes and is mainly offered by regular higher education institutions with a separated dual model. That is, full-time students and correspondence students are taught by different groups of academic staff. In addition to this, the teaching programs, curricula, syllabi, course materials, assessments, examinations, accreditation and awarding of diplomas and degrees for two types of students are different. This separated dual model is more or less similar to those in Russia and the USA, but quite different from the Australian integrated dual model (see Chapter 5).

China's RTVHE is mainly provided by the national RTVUs System, which has been established exclusively for distance learners. The system has a hierarchical structure with five layers and is operated on the basis of overall planning, running schools and managing at various layers. The institutions of China's RTVUs System at various layers have different administrative and academic

responsibilities. In this way, the China's RTVUs model, ie. hierarchical multi-bodied model is quite different from other single mode institutions (eg. the Open University in United Kingdom and the likes in other developed and developing countries) where a mono (usually national) institution has full autonomy over its various functions including planning, policy-making, financing, staffing, administration and management, teaching, assessment, accreditation and awarding.

As a course transmission centre, China's TV Teacher Training Institute (CTVTTI) provides distance education in co-operation and collaboration with other institutions and organisations. In addition, the state administered examinations of higher education for independent study is identified as a national system of state examinations model rather than an institution such as the London University which initiated external degree system 150 years ago as one of the origins of distance higher education worldwide.

In China, distance higher education, as a part of adult higher education, operates under the planning and control of the Central Government, that is, the State Education Commission and its relevant divisions. The strong impact and influence of rationalisation and concentration coming from the SEdC can be seen clearly through the whole history of China's distance higher education. In this aspect, China's distance higher education system is also rather different from those systems in Western countries with a far greater degree of institutional autonomy.

In both systems of CHE and RTVHE in China, the students are organised in group - correspondence classes or TV classes based on their work places (grassroots working units). From the perspective of distance teaching and learning, China's distance higher education has a compulsory paced and group based at the work place model with substantial face-to-face sessions which makes it quite distinct from the optional paced and home based individualised model of learning with a limited or no face-to-face sessions in Australia and some other Western countries (see Chapter 9).

Printed course materials and correspondence tutorials are the leading instructional media for CHE, while the radio and TV programs supplemented by audio and video cassettes, together with printed course materials, form substantial instructional media in RTVHE. China's RTVUs education uses TV broadcasting programs on a large scale, not only the total amount of transmission hours annually, but also for each single course and individual learner. This is an unique way of using TV broadcasting for distance higher education in the world (a similar case can be found in the US, see Chapter 9), it is quite different from the cases of other open universities where broadcasting programs and audio-visual materials have a merely supplementary role in comparison to other media i.e. print.

All of these characteristics of China's distance higher education make it quite unique and different from other distance education systems in the world not only in its organisation and administration, but also in its form of multi-media distance teaching and learning.

China is a developing country with a huge population. In the view of per capita indexes, China's telecommunication and higher education are still relatively weak. For example, telephone services are not common yet, even in sections of higher education in the metropolises. Two way telecommunication cannot be easily introduced to China's higher education system because of financial problems. Therefore, China's correspondence higher education provided by the RHEIs will remain as an example of the use of first generation information technology and educational media and of the less industrialised form of distance education, while China's radio and TV higher education will remain as one of the most industrialised form of distance education with a multi-media teaching model using the second generation of technology and media including mass broadcasts to deliver the courses in the early part of the next century.

Notes

Chapter 5

The Chapter 5 contained 29 pages (pp. 130-158) with 9,193 words originally

The Australian Distance Higher Education System: Structure and Function

Introduction

The term External Studies (ES) has been commonly accepted and used in Australian and international literature to describe distance higher education in Australia for most of the twentieth century. Recently, from the early 1990s, Open Leaning (OL) has been initiated in Australia's distance higher education system. At present Australia's external studies and open learning provision form a flexible and integrated dual national system of distance higher education.

This Chapter contains three sections. Section 5.1 begins with a historical review of the origins and development of Australia's external studies from early this century till the mid 1980s, followed by an intensive analysis of recent changes and shifts in Australian distance higher education in the late 1980s and the early 1990s. Section 5.2 and 5.3 examine the characteristics and models of Australia's external studies and open learning systems respectively. Both sections focus on structure and function at the national, institutional and micro levels and on administration and operation subsystems using the same analytical framework and typology as in Chapter 4.

Section 5.1

A Historical Review of Australian Distance Higher Education

Australian external studies can be traced to the Act of 1909 which established the University of Queensland in Brisbane. After over eighty years of continuing development, Australian external studies have formed a unique system of distance higher education known as the Australian dispersed and integrated dual model.

Some significant changes and shifts have happened since the late 1980s. The major changes and shifts were made by the Australian Commonwealth Government, first through the introduction of rationalisation and concentration via the establishment of eight distance education centres (DECs) in 1989; and then through the encouragement of more flexible and open learning delivery via the establishment of the Open Learning Australia (OLA) in 1992 and the abolition of the funding distinction between DECs and non-DECs by the end of 1993. A national flexible and integrated dual system of distance higher education consisting of two linking wings of external studies and open learning has taken shape.

The origin and early development of Australian external studies: Queensland model and New England model

In spite of its early start, the growth of external studies in Australia has been slow, almost reluctant. Until the middle of 1960s there were only two major universities providers of external studies: the University of Queensland and the University of New England: the latter first accepted external students in 1955. Both universities were pioneers in Australian external studies and each has made a special contributions to Australian and worldwide distance higher education.

The system adopted by the University of Queensland correspondence program nearly ninety years ago indicated the origin of the integrated dual model of distance education which has influenced Australian external studies ever since. The key elements of this system which form the core of the integrated dual model later are:

* the synchronisation of study programs for external and internal students in a range of departments;
* the use of the same examinations leading to the award of identical degrees for both; and
* the same assistance to external and internal students from the same group of full-time academic staff.

However, in 1949 the University of Queensland engaged in a new venture by setting up a separate Division of External Studies consisting of its own academic staff in a range of disciplines responsible for the bulk of external teaching. This became known as the segregated dual model

(Queensland model). This endeavour continued until 1986 when the University decided to dispense with it and reverted to the integrated dual model (see for example, Braithwaite & Batt 1975: 104-5 and Richmond 1990: 6-12).

The University of New England was founded at Armidale, a remote, small country town in the Northern Tablelands of New South Wales in 1955. It was the first Australian university not to be placed in a metropolis. The University of New England external studies system has been copied by many tertiary institutions in Australia and has gained a worldwide reputation. The Australian integrated dual model is now also recognised as New England model. Keegan and Rumble have accounted for this model in the following manner.

> In 1955 the University of New England at Armidale was set up with a major commitment to external studies. Its dictum that all university staff should have two responsibilities - one for a class of conventional on-campus students and the other for an off-campus group, has come to be known as the New England model or the Australian integrated mode and constitutes a distinct type of distance education provision. Under two influential directors, Howard C. Sheath (1955-1973) and Kevin C. Smith (1973-), it has had a marked effect on Australian external studies at university and college level, influenced the UKOU (Perry, 1972: 13), and has been copied in Zambia, Fiji, Jamaica and Papua New Guinea.
>
> Keegan and Rumble 1982a: 18

In fact, since then, all higher education institutions offering external studies in Australia have followed the New England model with more or less local and individual variation.

A continuing debate on establishing a single national open university since the 1970s

It is well known that the adoption of the integrated dual model in Australia is also a consequence of the debate on whether Australia needed to establish a single national open university. This debate has continued over the last two decades since the impact of UKOU began to be felt in Australia in early 1970s. In their paper 'Integration of external studies and campus-based education in Australian higher education: The myth and the promise', Campion and Kelly made the following comments on this issue:

> The establishment of a national institution for distance education was considered seriously in the early 1970s as a way of meeting the growing demand for tertiary places. This option was rejected by the Karmel Committee (1973) on the grounds that it would stifle innovation in existing institutions, since they might well assume that open education was being taken care of elsewhere by a single-purpose institution. Instead the Committee opted for the alternative of ' ... infusing the tertiary educational system as a whole with a greater measure of openness than currently exists.' (p.80) In 1986, under Hudson, the Commonwealth Tertiary Education Commission (CTEC) again rejected the idea of setting up an institution which would be the sole national provider of distance education, but this time on the grounds that a heavy initial expenditure would be required for its establishment.
>
> Campion & Kelly 1988: 171

The Karmel Report: Open Tertiary Education in Australia (1974)

The Hudson report: Review of Efficiency and Effectiveness in Higher Education (1986)

The growth of external studies from the later 1960s to the later 1980s

Table 5.1 Higher Education Students, 1968, 1978, 1988

Year	External Studies Higher Education	(Universities / CAEs)	Total	Percentage (External/Total)
1968	7,211	(6,995 / 216)	130,152	5.5%
1978	25,992	(11,606 / 14,386)	312,943	8.3%
1988	48,184	(17,236 / 30,948)	420,850	11.5%

Source: Statistics of 1968 was taken from the Karmel Report: 27; statistics of 1978 was take from the Hudson Report: 282-3; statistics of 1988 was adapted from the DEET.

Before the reorganisation of the higher education sector and the establishment of eight Distance Education Centres (DECs) in 1989, most distance education provisions at higher education level in Australia came from five universities and ten Colleges of Advanced Education (CAEs) with over 1,000 external students enrolled in each. There were 71 universities and CAEs altogether in the binary system of higher education at that time. Of the 71, 44 offered external studies, and of these 24 had external enrolments ranging from 300 to 6,000 in 1988 [1].

Dawkins' reform and reorganisation of external studies based on rationalisation and centralisation

In the late 1980s, following the publication of the Green Paper (the Australian Government's *Policy Discussion Paper on Higher Education*, 1987) and the White Paper (the Minister Dawkins' *Higher Education: a policy statement*, 1988), a reorganisation of distance higher education in Australia at both national and institutional levels based on principles of centralisation and rationalisation was implemented. The major indicator of this reorganisation of distance higher education was the establishment of eight Distance Education Centres (DECs) and the introduction of cooperative arrangements between DECs and other non-DEC institutions. This occured at the same time as the reorganisation of the whole higher education system and structure in Australia from a binary system to the Unified National System (UNS) through various amalgamation between universities, colleges of advanced education (CAEs), institutes of technology (ITs), and other kinds of higher education institutions.

Dawkins" Green Paper : the Australian Government's Policy Discussion Paper on Higher Education (1987)

The Dawkins' White Paper: Higher Education: a policy statement (1988)

Establishment of eight DECs

One of Dawkins' reform and reorganisation of Australia's distance higher education was the establishment of eight Distance Education Centres (DECs). The Report of the Assessment team on the designation of distance education centres for Australia was published in March 1989. It recommended eight DECs: two in New South Wales, Victoria and Queensland and one each in Western Australia and South Australia (see Table 5.2).

Table 5.2 Proposed Australian Distance Education Centres 1989

Distance Education Centres (Amalgamation of Institutions)	State	External Enrolment 1989* (Before Amalgamation)
1. University of New England (University of New England & Armidale CAE)	NSW	7,300 (6,000+1,300)
2. Charles Sturt University (Mitchell CAE & Riverina-Murray IHE)	NSW	7,500 (3,500+4,000)
3. Monash University (Monash University & Gippsland IAE)	VIC	2,400 (0+2,400)
4. Deakin University (Deakin University & Warrnambool IAE)	VIC	5,600 (4,000+1,600)
5. University of Central Queensland (Capricornia IAE)	QLD	2,500 (2,500)
6 University of Southern Queensland (Darling Downs IAE)	QLD	5,000 (5,000)
7. Western Australian DE Consortium (WA CAE, Murdoch University & Curtin University of Technology)	WA	3,530 (1,530+1,200+800)
8. University of South Australia (South Australian CAE)	SA	2,800 (2,800)

Source: Adapted from Keegan 1989a: 190-193.

Agreements between DECs and other non-DEC distance teaching institutions as envisaged by the Dawkins papers, came into operation in 1991. Contracts were sighted by DEET which link the DECs with non-DECs. The DECs have responsibilities for providing the services of course designing, production and delivery to non-DECs. In view of the Government's finance, concentration of financial support to those DECs and the 15% reduction in funding per EFTSU at the non-DEC institutions were a significant incentive for agreements to be reached.

All these factors forced Australian external studies from its dispersed and integrated dual model to a middle way towards the mainstream model. The decision taken by the University of Queensland in 1989/1990 to end its involvement in external studies might be seen as a significant product of this change (see Richmond 1990, 'The Ending of an Era: External Studies In The University of Queensland').

Baldwin's policy shift towards more flexible and integrated external studies and open learning

In the early 1990s, the publication of Minister Baldwin's *Higher Education: Quality and Diversity in the 1990s* (1991) showed that the Government's policy had moved beyond the agenda set in the late 1980s. The policy statement called for more flexible and/or open learning in the future, that is, instead of limiting and controlling distance education, the Government should encourage all institutions to offer their education by external and 'mixed mode' so as to open up access. This resulted in the establishment of the first TV Open Learning Project (TVOL) and the Open Learning Agency of Australia, Pty Ltd (OLAA or OLA) supported by the Commonwealth Government. At the end of 1993 the special funding scheme for the DECs ceased. All these changes showed that Dawkins' reform and reorganisation of external studies based on centralisation and rationalisation had given way to more flexible and integrated distance higher education and open learning.

The Baldwin's Report - Higher Education: Quality and Diversity in the 1990s (1991)

The policy shift about the DECs and its outcomes

As a result of this policy shift, the Western Australian Distance Education Consortium (WADEC), the only DEC based on a consortium of three universities (Curtin, Edith Cowan and Murdoch Universities, with TAFE involved as an associate member) was abandoned at the end of 1993 (refer to Howse 1992).

Open learning initiatives since the early 1990s

In Australia's context, open learning is grounded in the underlying principles of equity and cost-effectiveness, which have been the major concerns and driving forces for higher education since the 1980s. According to a discussion paper commissioned by NBEET, Johnson includes in the definition of Open Learning (OL) the following common elements:

> Open learning is an approach rather than a system or technique; it is based on the needs of individual learners, not the interest of the teacher or the institution; it gives students as much control as possible over what and when and where and how they learn; it commonly uses the delivery methods of distance education and the facilities of educational technology; it changes the role of a teacher from a source of knowledge to a manager of learning and a facilitator. It justifies these measures by arguments of efficiency, cost-effectiveness and equity.
>
> Johnson 1990: 4

Some of these open learning practices have a long tradition in Australia - relatively wide access, opportunities for much subject choice, opportunities for distance/external and part-time studies; and use of some kinds of communication technologies. One of the earliest successful ventures in open learning was sponsored in Queensland, and jointly developed by the heads of the two university distance education centres in Queensland and the head of the Distance Education College of TAFE. An open learning network was funded and a succession of open learning centres established, the first one in early 1990 (see Scriven & Lundin 1992 for details).

However, an open learning initiative at national level in conjunction with educational TV broadcasting sponsored by the Federal Government was not funded until 1992. At the launch of the project in Melbourne in February 1992, Peter Baldwin said that the Government would follow the progress of the pilot project with considerable interest since it was keen to explore alternative delivery programs at a time of ever-increasing demand for higher education. Television could change the traditional way higher education had been delivered and developed. But "he ruled out the possibility of the government establishing an 'university of the air', such as Britain's Open University" (Healy 1992). From March 2, 1992, TVOL began to offer seven first-year university-level subjects across Australia through the Australian Broadcasting Corporation (ABC).

With the initial success of the TVOL project and the large unmet demand for university places, the Federal Government allocated $28 million in the 1993-1995 triennial budget (now extended to the end of 1996) for an Open Learning Initiative (OLI) which was intended to greatly expand the scope of TVOL. The broad objectives for establishing the Open Learning Initiative (OLI) in the Agreement signed by the Commonwealth Government of Australia and the Open Learning Australia (CGA & OLA 1993 (Schedule 1): 1) were:

> 1.1 to widen and facilitate access to tertiary education through the provision of off-campus courses (units) in a wide range of subjects in high demand at a cost to each participant broadly equivalent to HECS;
> 1.2 to increase flexibility and innovation in the provision of high quality tertiary education programs; and
> 1.3 to build on the experience, expertise, range of course offerings and infrastructure of distance education, the pilot TV Open Learning (TVOL) project and open learning initiatives in the TAFE sector.
>
> Quoted from Atkinson et al 1996: 7

A consortium of universities, led by Monash University, were appointed which, in turn, led to the formation of the Open Learning Agency of Australia, Pty Ltd (OLAA) or the Open Learning Australia (OLA). The OLA is a company that acts as a broker for educational programs. As of April 1993 the consortium consisted of eight universities who were committed to providing units of study: Monash, Charles Sturt, Deakin and Griffith Universities and the Universities of Central Queensland, New England, South Australia, and Southern Queensland (with Curtin University of Technology involved in 1994).

The OLA has greatly enhanced the open learning options under the TVOL. Most dramatically in terms of the number of units (subjects) available. While the OLA commenced in 1993 with university-level undergraduate units of studies, it was expected that it would be expanded quickly to include postgraduate level studies and units in TAFE. The OLA Consortium consisted of nine university members, with nine other universities also involved. In the past four years, the OLA has received more than 30,000 students registrations and the number exceeded 22,000 individual enrolments in 1995. The limitation of choice of units in TVOL has been overcome.

OLA provides an alternative pathway for gaining university entrance. Students are admitted to studies irrespective of their prior education attainments; there are no quotas limiting intakes; students can undertake studies at a location of their choice, with no on-campus attendance requirements; provision is by distance education with some units incorporating use of electronic media and advanced technology; it accommodates different needs ranging from doing units for interest to completion of an award. Students who complete two OLA units will be eligible for entrance at any of the universities of the consortium members. While this does not guarantee students a place - they still must compete with everyone else - it does offer an alternative to entrance based on HSC results or mature age entrance. The quality of studies undertaken and assessments are equivalent to those of mainstream courses and credit towards mainstream courses is guaranteed.

The expansion of courses and distance education expertise abroad is another major development for the OLI. Less than three years after its operation, OLA has negotiated agreements with organisations in six countries either to collaborate in developing units or to provide Australian-made programs.

A team was commissioned by OLA in April 1994 to undertake an evaluation of the Open Learning Initiative. The information collected and analysed during the 21 months of the evaluation is summarised in the Final Report (1996) the conclusion of that report follows: "In the three years since the Open Learning Initiative was established, the goals set for it have been substantially met" (Atkinson, E. et al 1996: XII).

In addition to the OLA, there are a number of initiatives to help increase flexibility and innovation in higher education, with the aim of improving the quality of, access to and outcomes of education generally. Another well-known open learning venture at university level is the Professional and Graduate Education (PAGE) Consortium (formerly Wollongong Graduate Consortium), established by the University of Wollongong, combined with the Special Broadcasting Service (SBS), and with eleven other universities as the members in 1995. Other major Federal Government initiatives which have been introduced since 1993 to assist change in higher education especially, and tertiary education in general, include:

* the Open Learning Technology Corporation Limited (1993)
* Open Net (1995) (piloted as OLESS, 1994) - the second component of the overall Open Learning Initiative
* Cooperative Multimedia Centres Program (1994)
* the Australian Credit Transfer Agency (1994)
* Education Network Australia (1995)

In all these initiatives consortia of interested groups are funded to work together and in a cooperative partnership with the Government in implementing Government policies (Atkinson, E. et al 1996: 1-3). Of these initiatives this thesis will concentrated on the OLI represented by the OLA.

Section 5.2

Australia's External Studies System

The External Studies in Australia is well known as a national dispersed and integrated dual model system with its characteristic structure and function at all three level as follows.

At the macro level - the national system
At the median level - the institutional structure and function
Administration subsystem
Operation subsystem
At the micro level - the learning group

Section 5.3

Australia's Open Learning Initiative System

There have been several open learning initiatives since the early 1990s. The analysis that follows concentrates on the OLI system sponsored by the Commonwealth through Open Learning Australia because of its great significance and recent achievements in Australian context.

At the macro level - the national system
At the median level - the institutional structure and function
Administration subsystem
Operation subsystem

At the Micro level- the Learning group

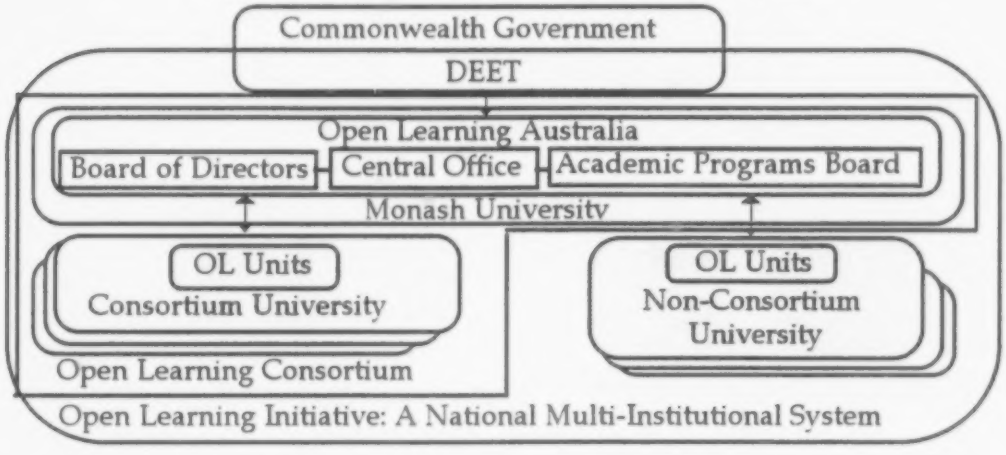
According to the above considerations the Australian Open Learning Initiative can be identified as a more flexible and open national multi-institutional system which retains the fundamental features of the Australian integrated dual model. The main characteristic of this system is that OL units and services are provided by almost all Australian universities and OL students are taught and assessed by the same pool of academic staff who are responsible for regular mainstream units/subjects teaching and assessing in the provider universities as well. In addition, the OLI has begun to impact on the barriers to university entrance, credit transfer and integration of different learning modes. The OLI has really brought Australian distance higher education to the beginning of a new era of flexible, open and integrated national higher education. The practice of the Australian OLI in the past a few years has also shown that information technology and telecommunication media play a significant role in the

new system. The Australian Open Learning Initiative system and its structure is illustrated in Figure 5.1.

Summary

This chapter began with a historical review of the origins and development of Australia's distance higher education with a focus on its significant policy shifts in the 1980s and 1990s. It has been shown that after nearly 90 years' development, Australia has formed a national flexible and integrated dual system of distance higher education, consisting of two linked subsections: external studies and open learning.

Figure 5.1 Australian Open Learning Initiative System



Since its inception the Australian integrated dual model of external studies has made a unique contribution to the spectrum of distance higher education around the world. The characteristics and uniqueness of Australian integrated model, its structures and functions at all three levels have been presented in this chapter.

Historically, before the 1970s given the nature of its distance mediated teaching Australian external studies has been identified as the correspondence model of the first generation of distance education, subsequently the multi-media teaching model with audio-visual materials as assistant media of the second generation of distance education has developed since the 1970s. Australia is a developed country with advanced technology and modern economy. In the past decade it has been shown that more and more modern information technology and two-way interactive computer-based and telecommunications media have been introduced and developed within Australian higher education, covering all on-campus, external studies and open learning initiative modes. Australian external studies has been identified as an example of less industrialised form of distance education mainly because of the small scale of operations in each provider and its integrated and proximate model with internal studies.

Remarkably for both the DECs or non-DECs providers, the recent changes and developments of distance higher education in Australia from the late 1980s to the 1990s have not greatly altered the original system and its structure and function. That is, the national dispersed, integrated and proximate dual system of Australian external studies has remained.

The open learning initiative starting in the early 1990s represents a new direction in the development of distance higher education in Australia. In the Australian context, open learning has not adopted the single institution model, ie. there is not an Australian national open university exclusively for distance learners. The Australian open learning initiative has developed through a national multi-institutional dual model, ie. the OLI system comprises nine consortium universities and nearly all other universities in Australia have been involved in the OLI. At present Australian distance higher education is moving towards becoming a more flexible and open higher education system by integrating external studies, open learning and on-campus modes. In this sense, the Australian Open Learning Initiative has been recognised as an example of the neo-Fordist paradigm of distance education.

In both systems of external studies and the open learning initiative in Australia, an optional paced and home based individualised model of learning with little emphasis upon face-to-face sessions is the most common type of distance education provision. In this aspect, the Australian student learning model in distance higher education is quite distinct from China's compulsory paced and group based at work place model with its substantial emphasis upon face-to-face sessions.

In the 1980s the Australian Government made an effort to improve access, quality and the cost-effectiveness of Australia's distance higher education through the introduction of rationalisation and concentration by establishing eight DECs. In doing so, the Australian Government tried to introduce a more industrialised form of mass distance higher education with a more centralised bureaucratic structure. Such a mainstream model had already been successful in some other countries over the past two decades. However, given Australia's educational and social contexts, it seems that since the 1990s, the Government's policy has shifted to encouraging and developing more open and flexible learning based on major inter-institutional collaboration nationwide and a strategy of using of innovative delivery technology (including national TV and radio broadcasts).

Notes

Chapter 6

The Chapter 6 contained 13 pages (pp. 159-171) with 4,242 words originally

A Comparative Summary of Both Systems and An Identification of Critical Issues

Introduction

In chapters 4 and 5 Chinese and Australian systems of distance higher education have been systematically analysed. This chapter, consisting of two sections, presents a comparative summary of both systems and identification of critical issues for further examination.

Section 6.1

A Comparative Summary of Australian and Chinese Systems

This section presents the similarities and differences between Australian and Chinese systems of distance higher education in structure and function at the national, institutional and micro levels.

Similarities Between Australian and Chinese Systems of DHE

At the macro level - the national system
At the median level - the institutional structure and function
At the micro level - the learning group

Differences Between Australian and Chinese Systems of DHE

At the macro level - the national system
At the median level - the institutional structure and function
At micro level - the learning group

Section 6.2

Identification of Three Sets of Critical Issues

The main points of the systematic analysis of both distance higher education systems in Australia and China in preceding chapters, and their similarities and differences summarised in the preceding section can be demonstrated more explicitly in the form of tables. Table 6.1.1, 6.1.2 and 6.1.3 are designed based on the distance higher education systems typology developed in Chapter 2 (refer to Table 2.5.1, 2.5.2 and 2.5.3).

In parallel to three dimensions of the systems typology, three sets of critical issues concerning both the Australian and the Chinese distance higher education systems can be identified from this comparative summary.

First set of critical issues: industrialised form of education

Table 6.1.1 A comparative Summary (1) -
The Critical Issues of Both DHE Systems in Australia and China
Concerning Industrialised Form of Education

The Mainstream: Autonomous distance teaching universities	Australia: External Studies	Australia: Open Learning	China: Correspondence Education	China: RTVUs Education
Fordist model of most industrialised form of education	*** Less industrialised mode**	*** Neo-Fordist model of industialised form**	*** Less industrialised mode**	***A transitional form of most industrialised form: from Fordism to neo-Fordism**
- A large scale institution providing mass education. - Use of mass media and technology for delivering Multi-media courses. - Operation and management are rationalised and standardised. - Economy of scale brings about high cost-efficiency and cost-effectiveness.	- Small scale Institutions providing both internal and external studies based on integrated and proximate model. - No mass broadcasting nationwide. - Not applied by economy of scale.	- A consortium of dual mode universities with a co-ordinating agency. - Use of mass media to deliver courses. - Open access and flexible operation. - A variety of options in programs and courses.	- Small scale of correspondence provision within each RHEI. - No mass broadcasting delivered. -Not applied by economy of scale.	-A large scale of national RTVUs system providing mass education. - Use of mass media including national broadcasting networks for delivering courses. - Achieve economy of scale with High cost-efficiency and cost-effectiveness. - Transition from a central unified system to a mixed system balanced between central and local levels.

The first set of critical issues refers to the characteristics and models of industrialised form of distance higher education systems in both countries. The mainstream theories in distance education literature used to argue that distance education is the most industrialised form of education. Is this true or false? Does it apply to all distance education systems? Why do the Australian and Chinese systems of distance higher education show so much variation on this dimension? How can Australian external studies and Chinese correspondence education maintain their less industrialised form? Why has Chinese RTVUs education entered a transitional phrase from Fordism to neo-Fordism? Should we identify the Open Learning Australia as a neo-Fordist organisation? In addition, What is the situation in both systems for those key implications of industrialisation mode, ie. mass education, mass media communications, economies of scale, bureaucratic administration and scientific management etc.? How have the debates on the industrialised form of distance education effected policy-making and practice in the ongoing development of both the Australian and the Chinese systems?

Second set of critical issues: administrative and operational organisation

Table 6.1.2 A comparative Summary (2) -
The Critical Issues of Both DHE Systems in Australia and China
Concerning Administrative and Operational Organisation

The Mainstream: Autonomous distance teaching universities	Australia: External Studies	Australia: Open Learning	China: Correspondence Education	China: RTVUs Education
An autonomous mono-institution model of single mode	**A decentralised and flexible national system of integrated dual model**		**A centralised national triple system with single, dual and quasi modes**	
- A distance teaching institution established for distance learners exclusively. - An autonomous distance teaching institution with full functions ranging from course development, teaching, assessments and accreditation. - In some cases, a single national open university founded.	- A dispersed provision by state based conventional universities of dual mode. - Conventional universities of dual mode deliver both internal and external studies, and open learning programs as well. - A flexible system with internal, external, mixed and open learning options. - Same group of academics for both on- and off-campus teaching and course development. - Same program & curriculum with proximately the same course materials, assessments and awards for both on- and off-campus students.		*** A separated model of dual model** - A great number of RHEIs-provide both full-time and correspondence studies. - A separated group of academics responsible for correspondence teaching and course development. - Parallel but specially designed program, curriculum, course materials, assessments and different awards to correspondence students. (**CTVTTI is a course transmission centre model of quasi mode.** **SAHEIS is a state examinations model of quasi mode.**)	***A multi- bodied hierarchical model of single mode** A new established RTVU system for distance teaching only. - A national RTVUs system with five layers, and each layer has special responsibilities in operation and administration. - All RTVUs co-operate in a hierarchical way.
	*** An integrated model of dual mode** - Multi-departments provide external studies within each university	*** A multi-institutional model of dual mode** - A consortium provides open learning programs through collaboration.		

The second set of critical issues concerns the characteristics and models of administrative and operational organisation adopted in each country. The mainstream theories of distance higher education are in favour of the argument that the autonomous mono-institution model is a paradigm case in systems' organisation. Why then have both Australia and China been out of the mainstream organisational model in developing distance higher education? Why have both countries developed their own characteristics and models in organisation while many other nations have pursued the mainstream model of distance higher education? In fact, both Australia and China have been strongly influenced by the impact waves from the British Open University and both have engaged for a long time in the debate about the need for a single national open university. Particularly, how can Australian external studies retain its integrated dual mode for nearly one century, while the majority of Chinese correspondence education developed as separate dual model? Why has Chinese RTVUs education taken its shape as a national hierarchical multi-bodied system, but not a single mono-institution such as the UKOU or a multi-institutional consortium of conventional universities such as the Open Learning Australia? In addition, with regard to administration, the mainstream system tends to apply a centralised model with high institutional autonomy. Why has Australian external studies

adopted a dispersed and decentralised system with high institutional independence? And why has the Chinese distance higher education system included all components forming a national centralised and rationalised system with strong control from the Central Government and less institutional autonomy? Have there been any kinds of debate on systems' organisation and administration in each of these countries about these issues and how have these debates influenced the development of policies and forms of provision in both systems of distance higher education?

Third set of critical issues: distance teaching and learning

Table 6.1.3 A comparative Summary (3) -
The Critical Issues of Both DHE Systems in Australia and China
Concerning Distance Teaching and Learning

The Mainstream:	Australia:		China:	
Autonomous distance teaching universities	External Studies	Open Learning	Correspondence Education	RTVUs Education
Mediated teaching at a distance				
AV assistant model of multi-media teaching mode (second generation)	**An evolutionary model using three generations of technology and media**		*** Consultation model of first generation mode**	*** AV substantial model of multi-media teaching mode (second generation)**
- One way mass communication such as broadcasting as the important medium has been introduced to supplement printed materials. - Printed materials play the the role of prior media with audio-visual materials as the assistant media.	- All three generations of information technology and educational media have been developed: from correspondence teaching (in correspondence model), through multi-media teaching (in AV assistant model), to two-way tele- education. However, print course materials and correspondence and telephone tutorials remain the essential instructional media.		- Printed materials are prior medium with a little audio-visual materials. - Compulsory face-to-face group-based sessions with correspondence tutorials play the key channel of communication.	- Nationwide mass broadcasting with other audio-visual course materials compose substantial medium in multi-media teaching mode.
Open learning at a distance				
Home based individual learning model with more openness and flexibility	**Home based individual learning model with more openness and flexibility**		**Group based learning model with less openness and flexibility**	
- An individual and home based model with a few or no-existence of face-to-face sessions. - A quite open and flexible model of learning with various learning support services from host institution directly.	- An individual and home based model with a few or non-existent face-to-face sessions. - A quite open and flexible model of learning with more autonomy for learner and various support services from host institution directly.		- A group based at work place model with substantial and compulsory face-to-face sessions. - A less open and flexible model of learning with limited autonomy for learner and most learning support services from local institutions.	

The third set of critical issues refers to distance teaching and learning. Why do both systems demonstrate so many different features? For example, mainstream theory has identified three generations of information technology and distance education which have developed one after another in modern society. Then, why has Chinese correspondence education as an example of first

generation and RTVUs education as an example of second generation, developed separately and simultaneously during the same period? On the other hand, why have Australian external studies and open learning developed and maintained all three generations of information technology and educational media? In addition, the mainstream theories have defined distance education as a form of individual and non-group based learning with more openness and flexibility for learners. In this regard, Australian external studies and open learning are much closer to a mainstream model of distance teaching and learning. In contrast, the Chinese distance higher education system seems to maintain its unique features by keeping its group based learning model with less openness and flexibility for learners. Where do these distinctions between both systems come from and how can these differences be explained? Have there been any debates on these issues and any interactions between these distinctive models of distance teaching and learning? Will each model be maintained with its distinctive features or will the two models converge sometime in the near future?

Summary

Part III

Critical Issues for The Distance Higher Education Systems in Australia and China

Introduction

In Part III three sets of critical issues will be arranged in the following way:

* the issues concerning industrialisation and the Fordist conceptualisation (Chapter 7);
* the issues concerning administrative and operational organisation (Chapter 8); and
* the issues concerning distance teaching and learning (Chapter 9).

The emphasis of the study in this part is to show the shaping mechanism, ie. how endogenous interactions within the systems and exogenous interactions between the systems and their educational and societal contexts and their interrelationship shape both systems' characteristics and models of their structure and functions, and have affected their transformation and development over recent decades.

Chapter 7

The Chapter 7 contained 49 pages (pp. 173-221) with 17,254 words originally

Industrialisation Theory and the Fordist Conceptualisation

Introduction

This chapter examines a number of critical issues of both distance higher education systems in Australia and China concerning industrialisation theory and Fordist conceptualisation which were identified in Chapter 6 (Table 6.1.1 and the statement that followed).

In Chapter 4 and 6, it was argued that China's correspondence higher education has been a less industrialised form of distance education and that radio and TV university education represents a paradigmatic example of the most industrialised form of education. Chapter 4 also shows some significant changes and trends which have happened in national RTVUs system since the later 1980s, changes which could be recognised as illustrating a transitional phase from Fordism to neo-Fordism. Similarly, in Chapter 5 and 6, Australia's external studies has been identified as a less industrialised form and the open learning initiative was identified as a neo-Fordist development. In addition, a section of Chapter 5 entitled 'A historical review of Australian distance higher education' has shown

that in the past two decades, the Australian Government has made a continuing effort to reform and reorganise external studies based on the principles of rationalisation and centralisation. In other words, the Australian Government tried to transform Australia's less industrialised form of external studies by using the most industrialised paradigms such as the UK Open University. All of these propositions need to be clarified and justified by further arguments.

Section 7.1

Debates on the Industrialisation Theory and Fordist Conceptualisation of Distance Education

In Chapter 3 'The Mainstream Systems of Distance Higher Education in the World and Their Theoretical Reflections' there is section in which the key concepts of industrialisation theory and Fordist conceptual framework of distance education (see Section 3.2) are examined. The application of the industrialisation theory in general, the conceptual framework concerning Fordism, neo-Fordism and post-Fordism in particular to distance education and open learning has become a matter of increasing controversy in the international distance education and open learning community since the early 1990s. The controversy is illustrated by the extended treatment this approach has received in a series of three articles by Rumble published in consecutive issues of the journal Open Learning in 1995 and the responses to Rumble's articles from Campion, Jarvis and Peters published in the first issue of the journal Open Learning in 1996, and also a Special Issue on this theme of the journal Distance Education edited by Campion in October 1995 (Campion 1995b).

The criticism about the relevance of industrialisation theory to distance education comes from different directions. Some authors (Baath 1981: 213-4, Holmberg 1985a: 9-10, 1995a: 7, Rumble 1995a: 14) insisted that small scale correspondence schools and dual mode institutions were pre-industrial or handicraft forms rather than industrialised forms of education.

On the other hand, the other authors (Sewart 1992, Farnes 1993 and Rumble 1995a) argued that "there is plenty of evidence that 'traditional classroom and group based education is itself industrialised" (Rumble 1995a: 19).

Since the end of the 1980s the debate on industrialisation theory has moved on to a consideration of the relevance of the Fordist or post-Fordist conceptual framework to various distance and conventional educational systems.

In the debate on industrialisation theory and distance education some post-industrial and post-modern concepts have also been introduced to interpret these developments. Peters considers Fordism, neo-Fordism, and post-Fordism as the later stages in the development of the industrialised

production process (1996: 51). In 1993 Peters himself contributed an article entitled 'Distance education in a post-industrial society'. His conclusions of the article are as follows:

> 1 Distance education is, indeed, a typical product of industrial society. This not only applies to its inherent industrial principles and trends but also to the fact that distance education has been capable of meeting educational needs typical of an industrialised economy and that it could attract and keep highly motivated students who wish to improve their vocational or professional status as well as their income, sacrificing their leisure time for gratifications often delayed for many years.
> 2 In a postindustrial society the traditional industrial model of distance teaching will no longer satisfy the new needs of new types of students with their particular expectations and values which, seemingly, not only differ from those of the students in the industrial society but are in many cases even the exact opposites of them.
> 3 This situation calls for the design of new models of distance education. They will probably by combinations of intensified and sustained group work - highly sophisticated ways of acquiring the necessary information for self-study and increased telecommunication between the participants. They will have different sets of goals and objectives. And they will have to rely on self-directing and self-controlling - that is, on students becoming autonomous.
>
> Peters 1993b: 57

All these developments and debates have reflected on the fact that the practice, research and policy-making of distance education have gone beyond the limitation of the mainstream approaches. Most educationalists in distance education and open learning community acknowledge the success and strength of the mainstream approaches represented by the UK Open University and other large scale distance teaching universities (mega-universities). At the same time, more and more people are aware that the mainstream approaches, which can be interpreted in the Fordist paradigm of distance teaching and learning or in other industrial conceptual frameworks, could not and should not be expected to be applied to all parts of the world. Furthermore, the mainstream institutions themselves have to face the new challenges coming from changing technologies, changing market forces, and changing social, political and economic relationships and to innovate their systems' structural and operational paradigm.

Section 7.2

Case Study of China: From Fordism to neo-Fordism, An Interpretation for Radio and TV Universities Education

In this section, the main focus is designed to show that in contrast to regular higher education which is recognised as a craft-like form of provision, radio and TV universities education is identified as one of the most industrialised forms and has entered a transitional phrase from Fordism to neo-Fordism in the period since the second half of the 1980s. Some specific conditions which limit the applicability of industrialisation theory to distance education in the Chinese context are then described (refer to Ding 1995a).

China's Radio and TV Higher Education: An industrialised form of education

In addition to the Open University of the United Kingdom, China's RTVHE is a paradigmatic example of the most industrialised form of education, ie. the Fordist paradigm, especially during its initial phase from 1979 to 1985. It is shown below that China's RTVHE is a Fordist institution representing the intertwined development of mass consumption and mass production in higher education.

The Mass consumption market for higher education in China after the Cultural Revolution

A recognition of the need to develop a mass higher education system in China first arose in the national agenda at the end of the 1970s after the end of the Cultural Revolution, when there was evidence of an increasing mass demand for higher education. This was the historical prerequisite for developing a large-scale industrialised form of RTVHE in China. Some of the main elements for explaining the mass market for higher education at the end of the 1970s follow.

* First there has been a great explosion of China's population and consequently enormous pressure on higher education after the foundation of the PRC, especially resulting from the 10 years of the Cultural Revolution when there were no practical measures for birth control. The total population in the mainland increased from 542 million in 1949 to 745 million in 1966 then to 975 million in 1979 (SSB 1990: 568).

* Since the end of the Cultural Revolution, China has carried out a range of socio-economic reforms and has introduced a policy of increasingly opening the door to the outside world. One result of these reforms and policies has been an increasing political awareness among the Chinese people, including a desire for equal right of access to higher education. Much new educational thinking, such as mass education, compulsory education, adult education, lifelong education, distance education and open learning, educational democracy, educational opportunity and equality, has been imported from abroad. Higher education is now widely recognised as a most valuable boost for a person's future carrier.

* The socio-economic development characterised by 'four modernisation' (the modernisation of agriculture, industry, national defence, and science and technology) has been put into the centre of the national agenda for the Communist Party and Chinese Government. Restoring and further developing education, including higher education, have been adopted as the fundamental policy of the State and Party in the new historical stage. The policy shift to economic construction and the related need for educational development has created a favourable environment for an increasing mass consumption of higher education.

* There was a serious shortage of qualified skilled manpower and professional personnel in all socio-economic areas at the end of the 1970s and the early 1980s. The number of persons having received some kinds of higher education was 0.62% in 1982. This is extremely low in comparison

with other countries (32.20% in US 1981, 21.50% in Australia 1971, 2.50% in India in 1981) (SSB 1990: 3, 704). There were only 14 million professional personnel in various categories at higher and medium levels in 1983. According to predictions by the State Education Commission, from 1983 until the year 2000, approximately 40 million professional personnel needed to be educated and trained to meet the needs of economic and social development (Zhou, Y. 1990: 144). This level of demand which was way in excess of the capacity of the then existing educational system stimulated the recent development of the current form of mass provision of higher education in China.

* There were great demands for almost all socio-economic areas and for all parts of the nation. That is, enormous demand, homogeneity between various study fields, and common demand in all location were three basic characteristics of mass market for higher education in China at that time. It was clear that China needed tens of millions of scientists, engineers and technicians to realise the goal of 'four modernisation'. Soon after, certain Chinese policy-makers and high-ranking administrators began to understand that China should also learn modern scientific administration and management in various fields, especially in business, commerce and other economic areas, from the Western capitalist world; and to understand that it also should revise its very limited provision of studies of social and political sciences and law, and liberal arts, literature and humanities.

* From the end of the 1970s to the early 1980s, the national mass market for higher education also arose partly from a need for a second chance at higher education for the lost generation of the Cultural Revolution.

These were the main factors leading to an increasing mass market for higher education at the end of the 1970s and the beginning of the 1980s. A question flowing from this is whether all kinds of higher education institutions were facing the same situation, and why China's RTVHE rather than other higher education institutions developed an industrialised form of mass education.

The characteristics of regular higher education and other kinds of campus-based adult higher education in China: its elite and craft-like nature

In the Chinese context, regular higher education (on-campus education) was almost exclusively for the younger generation and not for employed adults. An increasing mass market for higher education also stimulated the development of regular higher education in China. The strategy co-ordinated and controlled by the governments was to train a new generation of manpower, and not to focus upon improving the existing labour force. In these circumstances it is necessary to understand why China's regular higher education institutions have not developed an industrialised form to provide mass education. The main reasons for this are their elite and craft-like nature, and the close relationship between these two features. The number of regular universities and colleges and their total enrolments have increased from 207 institutions and 155,000 students in 1947 to 434 and 674,000 in 1965, and to 1,016 and 1,703,000 in 1985 respectively (DPC of EM 1984: 20, 22; DPC of SEdC 1985: 5). However the enrolment ratio for regular higher education in China (reached 2.3%

in 1987 - Zhou, B. 1990: 121) is not only much lower than that in developed countries (60% in the US; 29% in Australia in 1986), but also remains significantly lower than for most developing countries (20% in Egypt; 9% in India in 1975; 7% in Indonesia in 1984) (SSB 1990: 700, 698-9). This means that regular higher education for the younger generation remains an elite system and is far from saturation level. As a result, it is unlikely to provide its service to adults already in the labour force. In addition, China's regular higher education and other campus based adult higher education have a craft-like nature and not an industrialised form.

* The teaching and learning process in China's regular higher education is still classroom-based, face-to-face (person-to-person) communication. Resource or media based instruction, grounded in modern information and telecommunication technologies, has not become a significant component of the overall process of teaching and learning..

* Low ratios of student to teacher (4-5 : 1) and to total staff (less than 2 : 1) (DPC of EM 1984: 22, 28, 30; SSB 1990: 663; Pan 1995) also show that China's regular higher education system has a craft-like form akin to a master-apprentice relationship.

* Economic characteristics, such as higher expenditure per capita in regular higher education (In a comparison based on countries' per capita GNP, the expenditure per capita in Chinese regular higher education is 8 times the average for industrialised countries - Hawkridge & McCormick 1983: 161) and a higher percentage of expenditure on personnel (40-46%) (DPC of SEdC 1988: 115, Wang, X. 1991: 4-5) show the labour-intensive feature of educational production in China's regular universities and colleges.

* In such circumstances the goal of mass education could be achieved only by a dramatic increase in the numbers of both institutions and academic staff, but not by an introduction of new technology and/or an improvement in course delivery systems.

What was the situation for other campus-based adult higher education institutions? They were faced with massively increasing demand from adults already in the labour force. Owing to its craft-like nature similar to regular higher education institutions, campus-based adult higher education has not taken on an industrialised form.

China's RTVHE: A most industrialised form of education and the Fordist paradigm of mass production

It was clear that China could not afford, at the end of the 1970s, to expand rapidly a relatively expensive regular higher education system and other campus-based adult higher education. Instead, the Chinese Government decided to create and expand the Radio and TV Higher Education system that would cost less per capita and spread quickly throughout China. From 1979 to 1985, there was

a rapid development of RTVHE in China. The RTVHE has made a considerable contribution to the development of China's provision of mass higher education which is still at a very low scale, internationally, in terms of student participation percentage rates.

China's Radio and TV Higher Education (RTVHE) as the most industrialised form of higher education and Fordist paradigm of mass production in China shares most of the characteristics described in Peters's industrialisation theory and Campion and many others' Fordist conceptualisation of distance education (refer to Section 3.2). Several key characteristics of mass production for China's RTVHE follow.

* Its origin and dominance are closely intertwined with the advances of technology, especially information technology. China's national system of RTVHE was set up at the end 1970s when the national colour TV network based on microwave stations had been established in China's mainland (except for Tibet) and the electronic industry had begun its rapid development. The RTVHE took full advantage of single national TV channel (CCTV) broadcasting mornings and afternoons, 5.5 hours per day and 1320 hours per year. Since 1986 and 1988, CETV began to use the first and second satellite TV channels to transmit the programs for RTVHE. The volume of transmission has increased from 1320 to 5558 hours annually. This national TV broadcasting system, together with province-based regional radio and TV broadcasting networks and existing national book printing, publishing and delivering system, national transportation, postal and telecommunication system comprises a reliable technological base for developing mass RTVHE.

* Mass industries require specially-designed and operated organisations - which are responsible for not only conducting mass production, but also maintaining mass consumption. China's RTVUs Education has a national hierarchical organisation with a five-layer structure. The system is operated on the basis of "overall planning, running schools and managing at various layers", with the Central RTVU (CRTVU) as its centre. The structure and functional division of China's RTVUs system (refer to Section 4.3) mean that it is like a national industrial organisation and not like a traditional education institution.

* From the onset, the first feature of mass production of China's RTVHE was its large scale. According to the statistics by the SEdC, in 1985, China had 1,016 regular universities and colleges with total enrolment of 1.703 million and 1,185 campus-based adult higher education institutions with total enrolment of 548.5 thousand (DPC of SEdC 1985: 5-6). That is, on average, there were 1,676 undergraduates at each regular university or college and 463 undergraduates at each campus-based adult higher education institution. The statistics for 1985 reveal that there was a Central CRTVU and 28 Provincial RTVUs with total enrolment of 673.6 thousand, ie., on average 24,057 undergraduates at each PRTVU, which was 14 times that of regular universities and colleges and 52 times that of other campus-based adult higher education institutions. (Nevertheless, only a very small proportion of China's population enrol in distance education at present.)

* The most remarkable feature of mass production of China's RTVHE in the first half decade of the 1980s was its centralised system of course development and delivery. It can be summarised as follows (Ding 1992: 33-4).

- Nationally unified programs and curricula at central level: The CRTVU organised and worked out the nationally unified educational programs and the curricula in various study fields, disciplines and specialities.

- Provision of various courses was based on three levels: the CRTVU produced and launched most of the core courses (more than 80% of the total number of courses) which were of national interest. The regional institutions (mainly provincial RTVUs, and branch schools) produced and delivered some courses which were of regional interest. The grass-roots units, running work stations and TV classes, also provided a few specialised courses which were of specific interest to the local units.

- Management of courses and students at various layers.

In this system, most of the TV programs produced by the CRTVU were transmitted by CCTV (and CETV since 1986) through the national TV network and some of them were transmitted through regional TV networks. PRTVUs also produced some radio and TV programs and transmitted them through regional networks. Some of the audio-visual course materials were distributed from CRTVU and PRTVUs directly to TV classes in cassette form.

* Concentration, rationalisation and standardisation are some of the main characteristics of mass education which can be seen everywhere and all of the time in China's RTVHE. The national unified system of examinations for nationally launched courses provided by the CRTVU is the most typical example. In order to guarantee educational quality and academic standards in the whole of the national RTVUs system, five unification criteria for National Unified Examinations (NUEs) have been set up (Ding 1992: 34):

- unified final examinations;
- the same examination papers;
- the same examination timetables;
- the same criteria for marking, grading, and scoring;
- a concentrated organisation of holding examinations at branch schools and work stations (not in every TV class), and marking examination papers, and recording the students' scores at PRTVUs.

In addition, there is a great number of regular assignments and assessments handled locally and periodically. Thus this system has the characteristics of a production process in industry. It is obviously very different from the craft-like mode of assessment and examination in regular universities and colleges where the staff who teach then do the assessment, examination and marking by themselves in a small group.

* The need for scientific management and total quality control arrangements has come from the mass production process. In China's RTVUs system, "The Essential Regulation on Working Out Educational Program and Curriculum of RTVUs' Short-cycle Courses Study" (CRTVU 1991a),

"The Working Regulation on Course Materials Construction of CRTVU" (CRTVU 1991b) and "The Working Regulation on Examination and Assignment of Nationally Launched Courses by CRTVU" (CRTVU 1991c) have been published to guide and rationalise working procedures in order to guarantee proper teaching order, academic standards and educational quality. This contrasts with craft-like teaching.

* There are two categories of academic staff: full-time academics of RTVUs at various levels and part-time academics coming from regular universities and colleges and other institutions by contract. First, the division of labour amongst full-time academics is largely a reflection of their location. CRTVU staff tend to be involved in course design, curriculum development, teaching materials development, and course team co-ordination - for nationally-launched courses. PRTVU staff may also engage in these activities for regionally-launched courses but they are likely also to be heavily engaged in teaching nationally-launched courses. Work station and TV class academics are engaged almost solely in teaching and assisting student learning. Secondly amongst the part-time academics, a few act as chief-writers of main textbooks and/or chief-lecturers of TV or radio programs for courses. Most of them are well-known highly respected professors with rich teaching experience in their subjects and a large number of part-time academics are face-to-face tutors and supervisors in laboratory and other practical work.

* The ratios of students to teachers and to total staff also show the nature of mass education for China's RTVHE. For example, in 1985 the ratio of students to full-time academics in China's RTVUs system was 60, more than 12 times that in regular higher education institutions. The ratio of students to total staff was 27 in China's RTVUs system, nearly 14 times that in the regular system (DPC of SEdC 1985: 5-6).

* The economic features of RTVHE also display its industrialised form and mass production nature. Firstly, the average current expenditure per student of RTVUs is only about 20% of that of regular institutions. Secondly, though the total capital investment is enormous, the average fixed cost is kept relatively low, because of the great number of enrolments. In China's RTVUs system, it is well known that when an authorised professor is giving his lectures on TV, tens of thousands (even hundreds of thousands) of formally registered students plus lots of free listener-viewers are watching and listening at the same time throughout the whole of China. A functional change is brought about in this way; that is, TV broadcasting technology provides an alternative to the lecturing of hundreds of qualified professors. Economically, low average fixed cost provides an alternative to the high variable cost of paying professors. What is more important is that in this way the problem of shortage of a large number of qualified and experienced professors can be solved by using modern technologies. These are only several of the economic features of mass production of China's RTVHE (Orivel 1982; Ding 1984a, 1991a, 1994a, 1994b; Peng 1987, Ma & Yu 1993). This process also contributes to the industrial goal of 'uniformity of product'; it is a form of quality control.

Political and economic framework for supporting mass RTVHE

The Fordist framework not only conceptualises the principle of an articulation between the process of production and the mode of consumption, but also its political and economic framework. In China, there was such a framework for supporting RTVHE at the end of the 1970s and the beginning of the 1980s. Several elements of this framework are now outlined:

* The Chinese Government and the leaders decided in favour of the rapid development of RTVHE after the Cultural Revolution. The initial decision was made by Deng Xiaoping after consultation with former British Primary Minister Heath on the operation and performance of UKOU (Ding 1994c: 334). In the policy documents issued by the State Council and the Education Ministry in the foundation period (1978-1983), there had been basic guidelines and a number of special regulations for developing RTVHE (CRTVU 1989a: 1-38).

* In addition to political and regulatory supports, Chinese Central Government and regional governments at various levels have made significant investments to support development of RTVHE. There have been three periods of intensive investment initiated by the Central Government (Niu 1989: 50-1; Ding 1992: 20).

* The political and economic support services also came from grass-roots units. The units were made responsible not only for organising and fiscally supporting TV classes (and work stations sometimes), but also for supporting their employees to leave their work totally or partly with full wage, in order to study full-time, part-time or spare-time for several years.

* Much effort and a great contribution was provided by various kinds of societal institutions and organisations to support and maintain the mass consumption market and mass production of RTVHE. They included the central and regional broadcasting organisations, book publishing and selling system, postal and telecommunications system, a number of regular universities and colleges, and a great number of economic departments and community organisations.

It has been shown that the development of China's RTVHE (mainly RTVUs Education) can be interpreted by applying industrialisation theory and the Fordist conceptual framework. Generally speaking, it is applicable to China's RTVHE over the past 15 years. However, more precisely speaking, the Fordist paradigm fits perfectly only the initial phase of China's RTVHE from 1979 to 1985, because there have been many changes since 1986. These changes and the trends which commenced in 1986 could be interpreted as characterising a transitional phase from Fordism to neo-Fordism. The next subsection reveals the key features of this transitional phase.

Changing scenery: from Fordism to neo-Fordism?

Changes and trends from the second half of the 1980s

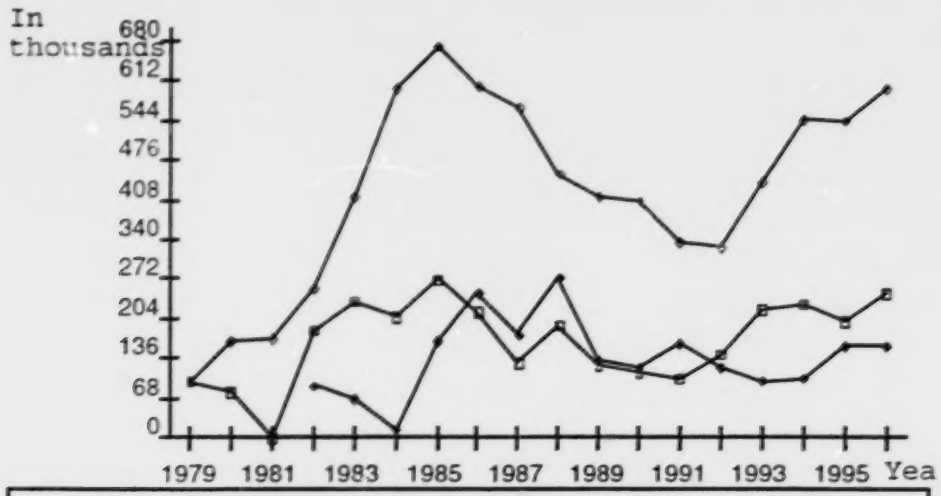
Since 1986 many significant changes and trends have occurred, which have had a destabilising effect on China's RTVHE. Most of these changes and trends have had a negative impact, leading to a number of crises within the RTVHE.

* The major crisis related to serious reductions in the numbers of new entrants, graduates and enrolments in China's RTVUs system in the late 1980s and the early 1990s. According to the statistics by the CRTVU, the number of new entrants has declined from 273,100 in 1985 to 103,500 in 1991, the number of graduates from 275,000 in 1988 to 98,000 in 1993, and the number of enrolments from 673,600 in 1985 to 330,400 in 1992. As a result, there was only one RTVU student in every 13 undergraduates in 1991, sharply down from 1 in every 5 in 1985 (DPC of SEdC 1985-1992). Figure 7.1 shows the evolution of student numbers of RTVUs, and Figures 7.2 - 7.4 demonstrates the comparison of student numbers between regular higher education institutions, other campus-based higher education institutions and radio & TV universities in the period of 1979 to 1996 (see below).

* Under-utilisation of investment and resources is potentially serious. The infrastructure of RTVUs - including a national broadcasting network with both CCTV and CETV involved in Broadcasting via satellite and microwave - has reached a reasonable scale, after continuing investment from the governments at various levels. This has happened since the later part of the 1980s and financing has included the World Bank Loan Project. However, over the same period, the number of new entrants and enrolments of RTVUs have dropped severely (Ding 1994a: 21, 1994b: 165-7).

* The total number of transmission hours of TV programs has increased dramatically from 1,320 in 1985 to 5,558 by the end of the 1980s, but the average number of enrolments for each course and the recipient ratios (percentage of TV program audience over total enrolments in certain courses) have decreased significantly. In some courses, there was even no enrolment at all in some provinces, and in other courses, the recipient ratios decreased to under 20% or less in some regions. The situation for radio programs is even more serious. Many TV classes did not purchase audio-cassettes at all. Rather, the average number of face-to-face tutorials (including lecturing) for each course has increased (Shi 1989, Ding 1994a: 165-7).

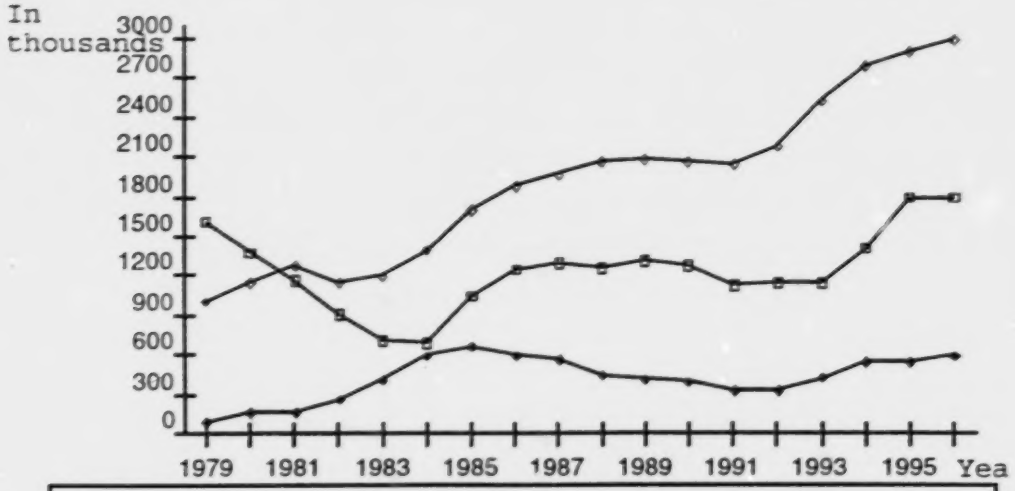
Fig. 7.1 Evolution of Student Numbers (Enrolments, Entrants, and Graduates) of China's RTVUs (1979-1996)



◇ Enrollments	97.5	170.4	414.1	673.6	565.9	417.4	334.7	438.6	545.3	
	168.0	258.5	599.1	604.4	453.8	407.7	330.4	547.9	536.2	
□ Entrants	97.8	0.0	235.6	273.1	130.0	124.5	103.5	218.6	200.6	
	79.4	185.0	205.9	215.2	191.9	112.2	143.6	232.2	206.1	
◆ Graduates			67.9	165.2	178.9	131.2	162.9	98.0	157.8	
	92.0	17.0	248.8	275.0	120.5	121.0	100.5	190.1		

Source: DPC of EM (1984), DPC of SEdC(1984, .1985, .., 1996), and Zhang, Q. (1991, ..., 1995, 1996).

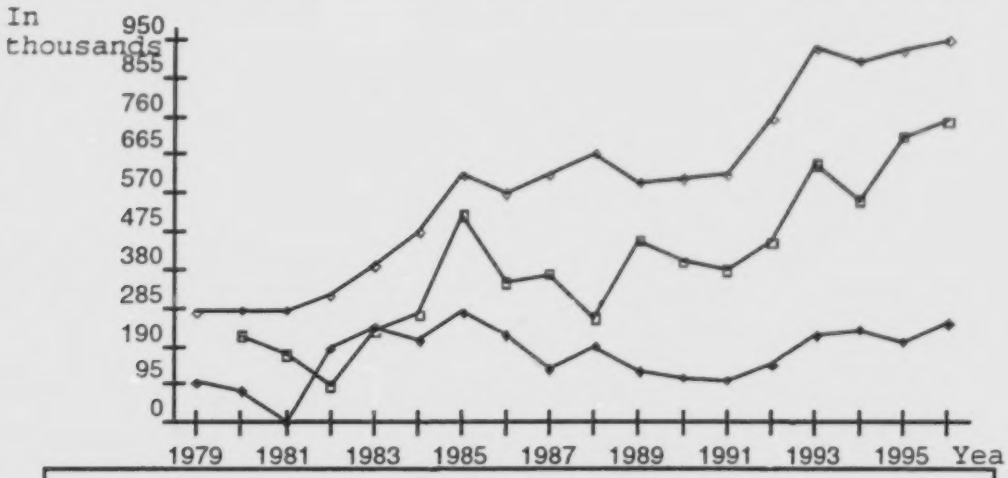
Fig. 7.2 Comparison of Enrolment Numbers Between Regular Higher Education Institutions, Other Campus-Based Adult Higher Education Institutions and Radio & TV Universities (1979-1996)



◇ RHEIs	1020	1279	1207	1703	1959	2082	2044	2536	2904	
	1144	1154	1396	1880	2066	2062	2184	2799	3021	
□ AHEIs	1624	1173	713.9	1051	1292	1324	1138	1424	2025	
	1386	914.5	693.8	1251	1274	1279	1143	1804	2120	
◆ RTVUs	97.5	170.4	414.1	673.6	565.9	417.4	334.7	438.6	545.3	
	168.0	258.5	599.1	604.4	453.8	407.7	330.4	547.9	536.0	

Source: DPC of EM (1984), DPC of SEdC(1984, .1985, .., 1996), and Zhang, Q. (1991, ..., 1995, 1996).

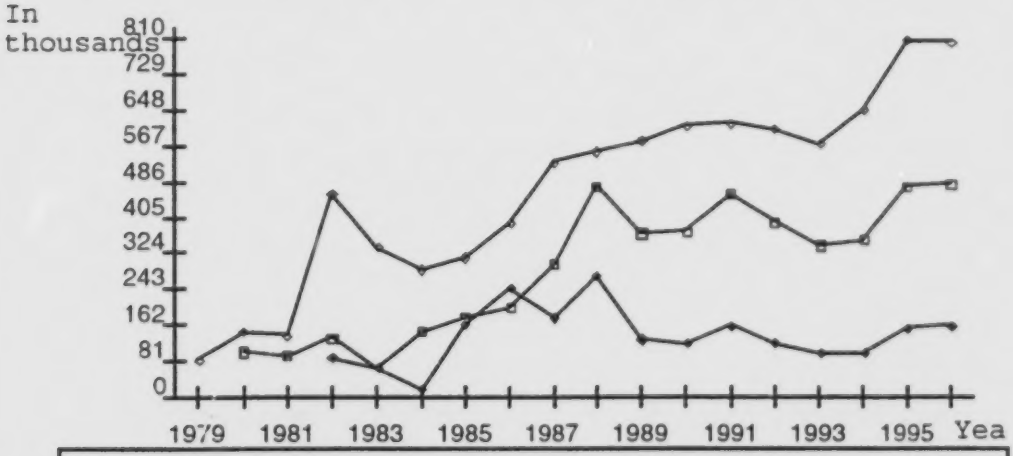
Fig. 7.3 Comparison of Entrant Numbers Between Regular Higher Education Institutions, Other Campus-Based Adult Higher Education Institutions and Radio & TV Universities (1979-1996)



◇ RHEIs	275.1	278.8	390.8	619.2	616.8	597.1	619.9	929.0	925.9	
	281.2	315.1	475.2	572.1	669.7	608.9	754.2	899.8	965.8	
□ AHEIs	-	171.1	228.2	514.7	368.3	453.9	379.2	644.1	713.2	
	216.8	89.2	267.8	349.0	258.8	399.4	448.1	552.8	739.1	
◆ RTVUs	97.8	0.0	235.6	273.1	130.0	124.5	103.5	218.6	200.6	
	79.4	185.0	205.9	215.2	191.9	112.2	143.6	232.2	206.1	

Source: DPC of EM (1984), DPC of SEdC(1984, .1985, .., 1996), and Zhang, Q. (1991, ..., 1995, 1996).

Fig. 7.4 Comparison of Graduate Numbers Between Regular Higher Education Institutions, Other Campus-Based Adult Higher Education Institutions and Radio & TV Universities (1979-1996)

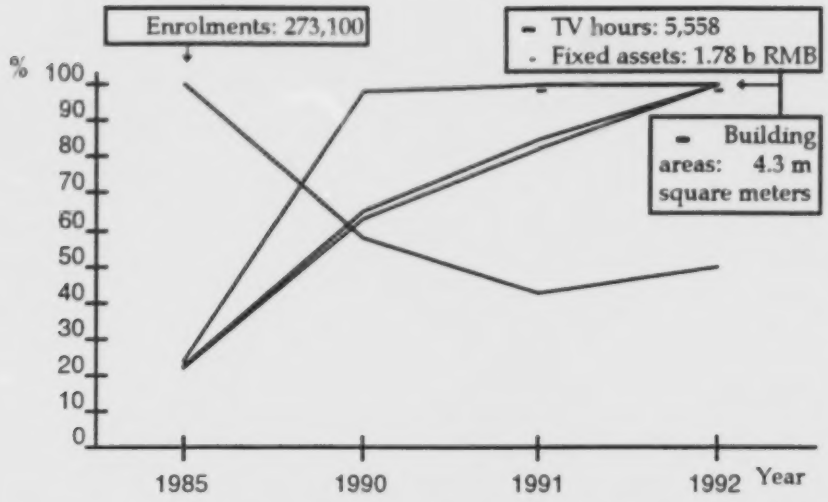


◇ RHEIs	85.1	139.6	335.3	316.3	531.9	576.2	614.3	570.7	805.4	
	-	457.2	287.0	392.8	553.5	613.6	604.2	637.4	838.6	
□ AHEIs	-	94.2	68.3	181.8	302.4	368.1	457.8	343.2	478.3	
	104.1	134.9	146.9	201.3	478.9	372.9	395.6	354.7	581.4	
◆ RTVUs	-	-	67.9	165.2	178.9	131.2	162.9	98.0	157.8	
	-	92.0	17.0	248.8	275.0	120.5	121.0	100.5	190.1	

Source: DPC of EM (1984), DPC of SEdC(1984, .1985, .., 1996), and Zhang, Q. (1991, ..., 1995, 1996).

Figure 7.5 tries to show change trends of the key figures of RTVUs from 1985 to 1992.

Fig. 7.5 Change Trends of Key Figures of RTVUs (1985-1992)



Source: DPC of SEdC(1985, .., 1992), and Zhang, Q. (1991, 1992)

* Tension and conflict between various structural elements of RTVHE have increased as well. The governments implicitly argued that the RTVHE had not been sufficiently adaptable to the needs of economic construction and had some problems with educational quality and academic standards. The RTVUs complained that the governments were changing their guidelines from an open policy to a closed system which they considered unjust. The governments asked for more unification and control (meta-Fordism?) and the institutions wanted more autonomy (post-Fordism?). The CRTVU tried to do more in the way of rationalisation and co-ordination of nationally launched courses and regional institutions clung to their rights in purchasing new entrants, designing programs and curricula, course development and delivery, examination and administration. The central and regional broadcasting organisations tried to cut off their transmission hours for RTVHE. The grass-roots units declared their difficulties in continuing to support their employees by organising TV classes and allowing them to leave their work with full wages to study for several years. Sometimes the various departments and the grass-roots units complained that the RTVHE had not paid enough attention to their special needs and the courses offered were not of interest to them. Even graduates have challenged their Alma Mater and the governments and asked why they cannot be given access to normal undergraduate or even postgraduate studies for degrees in RTVUs?

* As a result of these and other factors, the cost effectiveness of RTVHE and the cost efficiency of various educational resources have declined since 1986. Both average fixed and variable costs have increased since 1986; and as a result, the average cost per student has increased as well (Ding 1994a: 165-7).

All of these problems, however, were not inherent to the nature of RTVHE, but rather related to the failure of its Fordist strategy and the Government's Fordism oriented policy shift on RTVUE during the late 1980s and the early 1990s. This assessment is elaborated upon in the next subsection.

Interpretation of changes: The crisis of the Fordist strategy in China's RTVHE

The main problems mentioned above can be interpreted as the crisis of the Fordist strategy of China's RTVHE, ie. the contradiction and conflict between changes of mass consumption market for higher education and the overproductivity and inflexibility of the dedicated industrialised mass production system of RTVHE, since the later part of the 1980s.

* There have been a number of changes in the nature of the mass market for higher education since the second half of the 1980s.

- Along with the socio-economic development of China, changes in the structure of demand for different study fields, disciplines and specialities have occurred. For example, the demand for some traditional disciplines of science and engineering, such as mechanical and electrical engineering, was close to saturation, while many new demands for specific disciplines and specialities - with relatively small demand in each speciality, such as English for foreign trade, tourist economics, manufacture of household appliances and so on - have emerged.

- As a result of socio-economic development, differences in demands in the consumption market for higher education between different regions have been revealed. For example, in economically relatively-developed coastline areas of the South-East China, especially in the special economic zones and open metropolitan areas, those specialities concerning the foreign economy and trade have become popular and in increasing demand, while on the other hand, in some inland areas, discipline areas such as agriculture, forestry, livestock husbandry and veterinary studies were in relatively high demand.

- It was commonly agreed that the demands of the lost generation in the Cultural Revolution for second chance higher education had been almost met in the past decade from 1976 to 1985.

- Some of the conditions of the labour market have changed as economic reforms processed continuously and deeply. Various kinds of economic responsibility systems have been introduced to most grass-roots units of state ownership, along with numerous newly-initiated enterprises of townships, villages, and private enterprises (domestic, foreign investment or joint investment) as well. A so-called short-term method of operation has been introduced. The chief manager of a unit (a factory or a shop) of state ownership was responsible for the operation for several years by contract; and the main commitment of the mission was to make as much profit (money) as possible. The main goal of the private enterprises was also to make profit. Most managers, in this stage, would not put in the investment to assist employees access education and training, especially higher education, since it took several years and could not generate immediate profit. So the enthusiasm for access to RTVHE by organising TV classes and work stations has declined in some departments and units; and some of them have even withdrawn from the RTVHE system.

- More competition for attracting students between the various kinds of higher education systems and institutions has arisen in the 1980s and the 1990s. First the SEHEIS, which was introduced in the early 1980s, has been significantly expanded since the later part of the 1980s and has attracted widespread target groups in the mass consumption market for higher education. Secondly, various campus-based adult higher education institutions and other kinds of educational and non-educational institutions or organisations have also turned their operation to include the distance higher education market. And last but no less important, regular universities and colleges have tapped into the mass consumption market for higher education as well. Since the later part of the 1980s, Adult Education Schools or Continuing Education Schools have been set up in most regular universities and colleges. They have attracted prospective adult students through their higher status and respect, and offered on-campus and off-campus teaching to employed adults for higher education qualification. This represented a way for these regular universities and colleges to make extra-budgetary income, thus improving the financial status and the living conditions of their academics and staff.

* The dedicated Fordist mass production of RTVHE, which was formed at the end of the 1970s and the early 1980s, could not change and adapt itself to the new conditions of the market immediately and quickly.

- In some cases the nationally unified and rationalised programs and curricula were not adaptable to regional needs in different provinces. In some cases, the nationally-launched courses offered by the CRTVU and the National Unified Examinations, which accounted for over 80% of total courses, were too rigorous and inflexible.

- Due to the great number of courses launched through the national TV network with many hours for each course, the CRTVU had to adopt an Alternative Operation System, that is, to deliver the courses for sciences and engineering, and teacher training, only every second year; the courses for business, economics and management, and for social sciences and humanities only every third year. Such an Alternative System could not fit with the changeable market and has generated many practical operational problems for regional RTVUs.

- Sometimes the structure and content of courses were not suited to the needs of the grass-roots units and students. For example, there was too much inflexible unification and less optional choice for the units and students. In addition, there were usually more foundation courses and less specialised courses for specific professional studies. Most were not adapted to the reality of the socio-economic development process.

- There were some problems of course delivery and reception in China's highly concentrated and rationalised system, because the development, production and delivery of multi-media course materials needed the perfect co-operation between various parts, took a long time, and frequently had to operate over vast distances without advanced technologies. For instance, in some areas students could not watch the TV programs owing to problems with satellite ground station, equipment or timetable. In other cases, print materials reached some TV classes and students too late, sometimes after mid-term.

- The dedicated educational resources created some problems too. For example, China's RTVHE started its operation by delivering courses in sciences and engineering in 1979. A majority of TV hours of transmission was devoted to these courses. When the number of students enrolled in some sciences and engineering courses reduced sharply, it was very hard to cut off the TV hours for them and to add more TV hours for economics courses and the others. Some regional RTVUs had to keep lots of audio and video-cassettes of many courses, because the demands of the student market were changing constantly. Some dedicated laboratory equipment could not be used effectively for similar reasons.

- Also there were some problems of organisation and institutional structure within the mass production system of the RTVHE. The power of policy-making and national planning was mainly kept in the SEdC and the CRTVU, and not given to the regional RTVUs which were in fact closer to the practice of socio-economic construction and the mass consumption market for higher education. After several year's operation, some 'old' economic departments or grass-roots units involved in the RTVHE system withdrew from the system because the need for certain special professional personnel in these departments or units had been satisfied, or they were not able to afford the financial support to run TV classes or work stations any further. On the other hand, some urgent needs or demands from the market were not being met as no institutions and courses existed in the system to meet their requirements.

* There has been a definite policy shift since 1986 which was not sufficiently adapted to the actual conditions and changes in mass consumption market for adult higher education and to the mass production of RTVHE. The main elements of this policy shift can be outlined below (Ding 1994b: 166):

- the setting up of the National Unified Entrance Examination (NUEE) for all adult higher education institutions. All new entrants to RTVUs must pass the NUEE organised by the SEdC;

- the abolition of the free-listener-viewers system and the transfer system from single-subject programs to short-cycle diploma programs;

- the increased control of all kinds of diploma and degree education for adults, including the short-cycle diploma programs of RTVHE;

- the rigid limitation of annual new entrants introduced to the whole RTVUs system and allocated to each PRTVU by the SEdC.

Such a shift can be identified as the Fordism oriented policies that made the crisis of the RTVHE even more serious. The major feature of this policy shift was to change China's RTVHE towards a relatively closed and inflexible mode, and to bring China's RTVUs to a more centralised and rationalised system. The SEdC's policy shift was unjust because it was backward from the innovative policies during the foundation of the RTVUs system when the RTVUE was encouraged to be more open and flexible. The policy shift was unfair as well because the state administered examinations of higher education for independent study system was kept in running an open and flexible mode. The competition between RTVUs, SEHEIS and other kinds of adult higher education institutions and programs sharpened the crisis of the RTVUE (refer to the discussions in Section 8.2 and Section

9.2). In addition, the Government has shown more faith in regular higher education including correspondence education provided by the RHEIs. This can be seen clearly by the fact that the SEdC's policy has varied in terms of relative expansion of the various sectors of higher education during the late 1980s and the early 1990s. Another important factor is that the changes in mass market of higher education for adults does not affect regular higher education directly because the target group of the RHEIs is young generation which is always enormous and stable in China. Though the other campus based adult higher education institutions (eg. Workers' Colleges, Educational Colleges, Institutes for Administration and Peasants' Colleges etc.) were influenced by the changes of the market, they had their own niche market and their specialised and relatively stable target groups. That was why only the RTVUE suffered severely from its Fordist strategy and the Government's Fordism oriented policy shift (see Fig. 7.1 - 7.5 again).

The policy-response: from Fordism to neo-Fordism

There are many Chinese distance educators in RTVHE system and some policy-makers in Chinese governments who are aware of some of these crises and the remedies available (refer to Zhou et al 1990, and Zhao & Cai 1991). Great efforts have been made to work out a policy-response and to create a new mechanism of operation to meet the changing consumption market (refer to Zhang, D. 1987, Zhao, K. 1988, Xie, X. 1991, Gao 1990b, Yan 1991 and Zhou, Z. 1989). From the perspective of industrialisation theory, this policy-response could be interpreted as a policy turning from Fordism to neo-Fordism. Thus, since 1986, China's RTVHE has entered a transitional period from Fordism to neo-Fordism.

In this subsection a conceptualisation, similar to that suggested by Badham and Mathews (1989) and introduced and adapted into study of distance education by Campion and Renner (1992) (refer to Section 3.2), is applied to analyse the neo-Fordist nature of the policy-response of the RTVHE since the second half of the 1980s. The main features are described briefly as follows:

* Course development and delivery has gradually been shifting from centralised system to a mixed system (Ding 1992: 34-5).

- In the mixed system, the CRTVU formulates the national unified educational programs and curricula by various study fields (eg. sciences and engineering) and disciplines (eg. chemical engineering) based on core courses but not by specialities. In addition, the CRTVU provides around 200 core courses based on study fields and disciplines but not specialities. They are all in the subjects for which there is sustained demand and common interest in most provinces around China.

- In this mixed system regional RTVUs (mainly referring to PRTVUs and branch schools) can design and run their regional educational programs and curricula which are fitted to the needs of local communities in three ways (refer to Meng & Wang 1988):

1. Following the programs and curricula provided by the CRTVU, the regional RTVUs specify their regional-derived programs and curricula by different specialities (eg. petroleum refinement, electrical chemistry and chemical battery and so on).

2. The regional RTVUs create their own educational and curricula independently.
3. The regional RTVUs offer some educational programs and curricula jointly.

In the first case, the regional-derived programs and curricula must contain at least 60% of the total courses taken from the core courses provided by the CRTVU. In other cases, the regional RTVUs are free to choose several suitable core courses delivered by the CRTVU, combined with other courses produced by themselves.

- The course delivery has been changed from an Alternative Operation System in every two or three years to an Annual Delivery System for all core courses in various study fields and disciplines, so that the regional RTVUs could catch up quickly with the local demand of the rapidly changing market.

* A more flexible system of course selecting and credit awarding has gradually been developed. For example, in addition to disciplines of mechanical and electrical engineering, a new discipline named 'mechanical and electrical unified discipline' has been developed which is more adapted to the needs of small-scale enterprises of townships and villages (refer to Cheng 1990). Another example is that students can apply to study for double diplomas in both the fields of engineering and management (Jiao 1992).

* Following 'The Decision on Reforming and Developing Adult Education' worked out by the SEdC and approved and issued by the State Council in 1987 (SEdC 1987a), China's RTVUs have co-ordinated the development of diplomas and non-diplomas in education. In addition to the original short-cycle courses of undergraduate studies, a variety of courses covering vocational and technical education, post qualification training, professional certificates in education, and post-collegian continuing education have been offered by the RTVUs system. From 1986 to 1993, only CRTVU has had the full responsibility to co-ordinate with some ministries and commissions of the State Council to provide 38 non-diploma in education programs, of which there have been more than 3 million completions. In addition, the PRTVUs and branch schools also have offered their own non-diploma in education programs according to local needs, so the total number of completions have been over 10 million (refer to Xue, S. 1988, 1990; Niu 1993, CRTVU 1993a).

* A great effort has been placed on the improvement of design and production of course materials and on the professional development of academics and other professional personnel. A Chinese-Japanese co-operative project named 'writing and producing a series of training packages on audiovisual teaching materials' has been created for professional development in this area. The number of hours of TV programs for most courses has been reduced for more efficient and effective use of media (Zhao et al 1989; Ding et al 1989a, 1989b).

* Some changes have also occurred in the organisation. For example, in addition to TV classes, individual and spare-time studies have been encouraged. Besides adult employees, young school leavers have become a new target group of China's RTVHE.

* An operational mechanism called 'running school in tune with the needs of socio-economic development' has been introduced as the working guideline for CRTVU and improved gradually. This mechanism includes three major phases of market prediction, policy-making and design of program and curriculum, and then evaluation and adjustment. The purpose of accomplishing this mechanism is to make RTVHE respond to new changes and trends in the market more accurately and more quickly (Xie 1989a: 12).

* Faced with increasing challenge and competition from other sectors and institutions of higher education, China's RTVHE has tried to collaborate with them in the delivery of some forms of educational programs. For example, some regional RTVUs have co-operated with some correspondence divisions of regular universities and colleges and/or the regional systems of state administered examinations for independent study for offering some undergraduate programs. Also CRTVU has begun to offer foundation courses for regular universities and colleges since 1993.

The above analysis of the crisis and the policy-response of China's RTVHE since the later part of the 1980s has shown that there have been several changes and trends from Fordism to neo -Fordism in mass market and mass production of RTVHE. These can be summarised as follows:

* The national unified and homogeneous mass market for higher education has changed to a regionally unbalanced, diversified and changing market.
* The central, highly-rationalised and standardised system of course development and delivery has changed to a regionally-responsive, relatively-flexible and diversified system ('mixed system'), in which regional RTVU institutions have more autonomy and responsibilities.
* Offerings dominated by the short-cycle courses for undergraduate studies has changed to a variety of offerings in both diploma and non-diploma in education programs, which are more adapted to the needs of a diversified and changing market.
* In course selection, credit awarding and many other organisational and managerial areas of courses and students, a dispersed and regionally responsive system with more flexible regulations has gradually developed.
* The provision of courses and the student target groups served by regional RTVU institutions have become different from each other, and pluralistic and changing as well. As a result, academics and administrators have to increase their responsibilities in matching their courses to the specific demands of local communities.

According to all of these arguments and analyses, it can be identified that, since 1986, China's RTVUE has entered a transitional phase from Fordism to neo-Fordism. The key driving forces bringing about such a change were not so much the progress in modern information and telecommunications technologies and their applications in distance education, but the socio-economic developments and their diversified, changing and regionally-unbalanced influences on China's national labour market. After continuing endeavour of responding to the changes of the

market in policy and practice in the past decade, Chinese government has begun to confirm most of the policy responses initiated by RTVUs. In the mid 1990s, some relatively open and flexible policies have been resumed in RTVUE and to some extent, institutional autonomy has been given back to RTVUs for they can response to the market change more efficiently and effectively. Thus, the reduction of student numbers in RTVUE started from 1986 has been recovered in the mid 1990s (refer to Fig. 7.1 - 7.4 and a further examination in Section 9.2). The RTVUE has entered a new period of development characterised by the neo-Fordist strategy.

Concluding critical reflections on industrialisation theory of distance education in the Chinese context

There are particular conditions which limit the applicability of industrialisation theory in the Chinese context.

Industrialisation theory and the Fordist conceptual framework have been developed in a Western context, where a free market economy and democratic politics have become the dominant forces in socio-economic life since the industrial revolution. In opposition to this, Chinese society had a long history of feudalism. Yet since 1949, China has become a socialist society with a planning economy and proletarian dictatorship political structure under the leadership of the Communist Party. Since the end of the 1970s, with socio-political and economic reforms and policies initiated by the Party, China has entered a transitional period through a commitment to modernisation. Today's China is moving in this direction, but it has a long way to go. Consequently, several critical reflections should be emphasised.

* As declared by the Chinese Communist Party's statements, the goal of Chinese economic reform is the socialist market economy with Chinese characteristics. Contemporary China is just at the beginning of a shift from being a planning economy to becoming a market economy. An important implication of this transformation is that the labour market in China has just begun to change, but it is far from mature. In China's economy, the leading forces continue to be state-owned enterprises. In the past 45 years graduates from all kinds of higher education institutions (and other vocational and technical education and training institutions as well) were appointed to their employers by the Party and the governments. Employees (including academics and other professional personnel) could not choose their employers through market mechanisms. Furthermore all kinds of professions were virtually permanent, and change and re-allocation of career were quite unpopular and needed approval through the Party and the governments. The situation has started to change since the end of the 1970s but it is not fully implemented yet. So an analysis of distance education using industrialisation theory and the Fordist framework which is based on market economics, could provide only a part of the truth.

* It is well known that China's socio-political reform has been far behind its economic reforms. Regional governments have got more power in the past two decades but China's political system is

still highly centralised and overwhelming powerful. Not only socio-economic construction, but also educational and other cultural developments are under the steady control and strong influence of the Party and the Central Governments' administration which remains the dominant feature of contemporary Chinese society. So for today's Chinese higher educational institutions (including RTVUs) a market-orientated policy and style of operation are difficult to implement in practice not only because of an underdeveloped labour market, but also because of strong and direct control and intervention coming from the political and administrative leadership of the Party and the Government.

* In China, education used to be recognised as a part of the superstructure of a society but not of the economic infrastructure, eg. education was the means and victim of class struggles during the Cultural Revolution. Since then science and technology have been recognised as the major force in economic production, but the nature, role and function of education is still debated. Some policy-makers and educationists dislike the introduction of economic theories and methods (eg. market mechanism and competition principles, conception of cost-efficiency and cost-effectiveness, economic analysis and accountability of educational institution, etc.) into educational policy-making and institutional operation. These opponents of education being treated as an essential part of national economic systems and of educational institution being treated as a business or service industry have, to a degree, prevented higher educational institutions from responding more consciously and sensitively to the changing labour market.

However, despite of these limitations, this case study has clearly shown that industrialisation theory and the Fordist model do provide a useful conceptual framework for interpreting what has been happening in China's higher education system, especially of the RTVHE in the past 15 years. It is important to remember, however, that it is only one of a number of possible interpretations.

Section 7.3

Case Study of Australia: From Less Industrialised External Studies to Neo-Fordist Open Learning Initiative

In this section, the emphasis is given to the traditional integrated dual mode provision of external studies which has been identified as a less industrialised (pre-Fordist) model. Then the case study moves on to examine the Australian Government's dominant policy on distance higher education in the 1980s, from Johnson's Report in 1983 to the Dawkins' revolution at the end of the 1980s, which have been criticised as being underpinned with an essentially Fordism-oriented conceptualisation. The criticism reveals that such a Fordist conceptualisation is derived from the successful experiences of the UK Open University and other large scale single distance teaching universities. However, it may not appropriately apply to Australia's dispersed and integrated distance higher education system and to Australia's national character at the end of this century. A policy shift by the Australian

Government and the new ventures in open learning initiatives since the 1990s have been discussed. The Australian Open Learning Initiative, characterised by more open access and flexible learning, and further integration of mixing various study modes within existing dual mode UNS universities, has been interpreted as a neo-Fordist solution in the Australian current context. Finally, Australia's future of distance higher education in the 21 century and its relevance to the Fordist, neo-Fordist and post-Fordist conceptualisation have also been examined (this case study draws heavily on the work by Campion and his co-authors) [1].

Australian external studies: A less industrialised form of education

* A dispersed system consists of many dual mode institutions which are small scale in terms of external enrolment. Even for the DEC institutions such as the University of New England and Deakin University, for which the external enrolment has reached up to or over 50% of the total enrolment, the number of off-campus students for each university is around 10 thousand and its EFTSU is less than 5 thousand. This factor will not be changed in the near future because of limitation of the total population in Australia, the state based nature of institutions and the competition between them. This is quite different from those large scale and single national distance teaching universities (mega-universities).

* Australian dual mode institutions adopt the integrated model, in which the same academics develop courses and take teaching responsibility exclusively for a small group of their own students (both on- and off-campus), so that the course author is identified with the tutor. This approach distinguishes itself from the large scale mainstream strategy where courses are developed for hundreds and thousands of students, often as a result of team work, and then local groups of tutors are engaged for teaching and commenting on students' work. On the other hand, increasingly educational development staff are employed to assist academics in the updating and improving of existing courses and development of new courses for external studies. It is certainly distinctive from the traditional approach.

* Within dual mode institutions there are some technological infrastructure and facilities for printing and publishing, audio-recording and even TV production, packaging and posting, broadcasting, telecommunications and so on, though not as large in scale and volume as that found in the mainstream distance teaching universities. However, the decisive impact of technicalisation on distance teaching and learning process of external studies is structurally quite different from the use of educational technology and media in campus and classroom based context.

* Small scale dual mode institutions cannot achieve the economies of scale that are reaped by the mainstream institutions, where the expensive costs for course development and the initial investment and regular costs for maintaining the technological infrastructure can be justified by their significant number of enrolments. In fact, for Australian dual mode institutions, the average total cost per EFTSU for external course funded by the Commonwealth is equivalent to that for on-campus

students. An independent report by Harman (1991) revealed that most of the DECs could only evidence discounts of 1-10 per cent on distance as opposed to on-campus teaching.

Australian Government's dominant policies on distance higher education in the 1980s

Australian Government' policies on distance higher education, started from the Johnson Report in the early 1980s until the Dawkins' ambitious reform at the end of the 1980s, demonstrated its continuity in policy's theoretical underpinnings on industrialisation theory and the Fordist conceptualisation.

The principles derived from the Open University and other large scale single distance teaching institutions became the dominant theoretical underpinnings for policy-making on rationalisation of Australian external studies in the 1980s. These principles can be summarised as follows:

* A dispersed system of external studies will inevitably produce many small scale providers with considerable duplication in specialised staff, facilities and courses development.
* Small scale providers of external studies cannot reach the economies of scale and cannot guarantee the quality of provision.
* High quality of external studies provision can be achieved by reducing unnecessary duplication and concentrating resources including both staff expertise and technological infrastructure in the development, production and delivery of external courses and multi-media materials.
* The economies of scale principle should form the basis for reorganising and restructuring of external studies system. That is, increasing the efficiency of delivery and cost-effectiveness by reaching the economies of scale that can be achieved only by limiting the number of institutions regarded as DECs or principal providers of external studies, that is by consolidating dispersed providers to a centralised and concentrated national system of provision.

Based on these principles, the long-cherished intention of consolidating provision of Australian external studies was expressed most explicitly in Hudson Report when the rationalisation proposed:

> Re-location of courses is required to consolidate provision so that areas of large demand might be offered by three or four institutions nationally, areas of medium demand by two, and small areas by a single institution. As a consequence, some institutions will become less viable than at present and their withdrawal from external studies will need to be phased in gradually while they build up their on-campus enrolments.
>
> Hudson 1986: 228

That was why Chapter 5 saw Johnson-Hudson-Dawkins's revolutionary reform as a middle course in the debate of consolidating the provision of Australian external studies into a single national provider. Johnson spoke the truth in 1991:

> In July 1987 Mr Dawkins became Minister, a man eager for change. I don't know if every new minister everywhere thinks it a priority to establish a British style Open University, but I am told that Mr Dawkins did.
>
> Johnson 1991: 3

The criticism on Commonwealth Government's policies

Not surprisingly, Dawkins' reform of external studies met strong resistances from various parties. Johnson made the following comment in his paper 'Where do we go from here?' in 1991:

> There have been three points of view, almost three factions in that debate.
>
> One group argued that there was too much proliferation and duplication and waste of effort in the provision and that it needed to be rationalised by one means or another. ... Another group was what I would call the intelligent opposition. These people opposed the first on the grounds that flexible and open learning is the way of the future and that instead of limiting and controlling distance education, we should be encouraging more of it. Indeed, we should be encouraging all institutions to offer their education by this means so as to open up access and to make the work of learning more convenient and less forbidding to the potential audience. The third group either wished the whole issue would go away so that they could be left in peace, or they said: "Yes, there is a need for rationalisation, but not of us; please leave us alone."
>
> The outcome of that debate, at first sight, seems clear. The first group, the rationalisers, won the battle, at least in terms of government policy and action. It seems to me, however, that the second group, the advocates of open learning, are beginning to win the war. At least they have converted me and I think there is ample evidence that they are converting the Commonwealth bureaucracy.
>
> Johnson, R. 1991: 1-2

Among the intelligent opposition, Campion (1990a, 1990b, 1992, 1993a, 1995a) and his cooperators Kelly (Campion & Kelly 1988, also Kelly 1987, Smith & Kelly 1987), Guiton (Campion & Guiton 1991), Renner (Campion & Renner 1992) and some others like King (1989, 1992, 1993a, 1993b), Evans and Nation (1992, 1993a) have made their contributions to this debate on Government's policies of distance higher education. The key points of their arguments relative to the policy debate and their underpinnings follow.

* To challenge the Government's policies on distance higher education and to draw public attention to the theoretical underpinnings of these policies (refer to eg. Campion 1995b: 188-9).
* To point out that the Government's policies were underpinned by the Fordist conceptualisation of industrialised mass higher education which was derived from the UK Open University and other large scale mainstream distance teaching institutions.
* To claim that these Government's policies with their theoretical underpinnings may not applied to Australian distance higher education system and societal context and to emphasise there are many new choices for policy-making in a new era.

As a major policy-maker for the Commonwealth Government in the 1980s, Johnson chaired writing of discussion paper Open Learning: Policy and Practice, commissioned by the NBEET in

1990 and declared the end of an era in his life having official involvement with distance education in his 1991 ASPESA Biennial Oration 'Where do we go from here?'. This can be seen as an indicator of the end of a passed era (the 1980s) and the commence of a new era (the 1990s). The passed 1980s was characterised by a long-cherished wish of rationalising and consolidating provision of external studies in Australia, while the coming 1990s promises more open and flexible learning.

Australian open learning initiative: towards neo-Fordism and possibly post-Fordism?

It is clear now that the Open Learning Initiatives encouraged by the Commonwealth since early 1990s could be interpreted as the practice of a neo-Fordist solution. According to the analysis in Chapter 5, Australian Open Learning Initiative (with OLA as an example) has following characteristics:

* The Australian Open Learning Initiative is not provided by a newly established single national open university, but by a consortium of existing dual mode universities with support coming from other non-member universities and other tertiary education institutions. The Open Learning Australia is not an autonomous distance teaching institution, but a brokerage agency (Smith).

* Australian Open Learning Initiative is running and operating within the integration system of existing dual mode universities and not a newly established system parallel or independent from the existing UNS (Unified National System) institutions. It makes various study modes more mixed and integrated within the existing system and by doing so makes advanced learning more open, flexible and transferable and of high quality.

* Australian Open Learning Initiative provides greater access to higher education in more open and flexible way than ever before. Pritchard, Executive Director of OLA presented a paper entitled 'Open Learning Australia: Accessible and Flexible Higher Education' at the Fourth National Open Learning Conference in 1994, and the following are the main points of his argument:

1. OLA offers total flexibility of (open) entry, and flexible payment.
2. OLA permits a wide choice of timing, pace, goals and outcomes.
3. OLA deliver education in many flexible ways, using low, and high, and especially middle, technologies. And it adds value.
4. As a consortium and a broker, OLA offers students a uniquely wide choice of learning provided by many universities. But OLA is constrained by the rules and expectations prevalent in Australian higher education.
5. OLA can be the basis of educational packages custom-tailored to the needs of individuals, groups, even countries: from an individual in Alice Springs to a nation in Asia.

Pritchard 1994: 2

* In order to provide equity of access throughout Australia and to make delivery more open and flexible, and to maximise access, Australian Open Learning Initiative uses modern communication technologies and innovative means to complete and expand the reach of traditional print-based

communication and education. For example, the national broadcasts of TV and radio programs through ABC are well designed and highly valued by the students. In addition, an electronic support service is planned to be introduced to Open Learning.

Nonetheless, Campion saw neo-Fordism "can be no more than transitional phases" (Campion 1990a: 185), he said in 1989:

> It is my contention that higher education is such an industry, and that post-Fordist strategies such as flexible specialisation [which are characterised by smaller batch production, rapidly changing models, requiring highly skilled human intervention and hence demanding flexibility and specialisation] provide a more appropriate policy orientation. ...
>
> Campion 1990a: 186

The main reason for giving preference to post-Fordism is drawn from increasing technological advance. According to many commentators, new information-based technologies will increasingly disrupt Fordist industrial organisation. These new technologies will bring about economies of scope instead of economies of scale. Scale will no longer be the central concern and size will no longer constitute barriers to compete. More importantly, new technologies can be grasped as the means of change to link more responsible, participatory and democratic academic professionals with more efficient and effective teaching, much more flexibility and variety, and more open access and economic success rather than being used to alienate academics from their professional work still further. More open and flexible learning allowing various on- and off- campus study modes to be incorporated in a highly integrated dual mode system might be the future version. In other words, various OLIs or DEC and non-DEC universities will eventually be incorporated into such a system with some essential elements described by Campion and Renner as 'the post-Fordist scenario" (Campion & Renner 1992: 23).

Summary

This chapter provides an examination of industrialisation theory and Fordist / neo-Fordist / post-Fordist conceptualisation and their relevance for distance education and open learning. The review of the debates and both case studies in Australia and China all show that these conceptual approaches have significant applications to both practices and policies of open and distance education systems worldwide. In addition, the introduction of Fordism / neo-Fordism / post-Fordism as various development stages of industrialisation and other post-industrial / post-modernist concepts provides a useful instrument for distance educators and policy-makers to grasp the challenges and changes facing them in the intersecting period between the 20th and 21st centuries.

The case study of China demonstrated that in the Chinese context, conventional higher education provided by RHEIs has a craft-like and elite nature, which could not meet the increasing market demand for adult in-service advanced studies which has emerged since the end of the 1970s.

The national RTVUs system is one of the options which can offer mass higher education for employed adults in a most industrialised form of education. The Case Study analyses the key characteristics of mass education for China's RTVUs: its closely intertwined development with the national broadcasting network and other technological infrastructure, its specially-designed and operated organisations responsible for conducting mass production and maintaining mass consumption, its centralised system of course development and delivery, the concentrated, rationalised and standardised feature of its national unified system of course examinations, its scientific management and total quality control arrangements, the labour division between full-time and part-time academic staff, and its large scale of operation and the achievement of economies of scale. China's mass RTVUE is funded and supported by the State and various departments and a great number of grass-roots working units. Since the second half of the 1980s, the changes in China's mass consumption market for higher education and the Government's policies on adult higher education has resulted in a gradual shift of RTVUE from Fordism to neo-Fordism. The policy-responses and other educational implications within RTVUS system in such a transitional period are analysed. The current socio-economic and educational reforms in China and some specific conditions which limit the applicability of industrialisation theory to distance education in the Chinese context were also examined.

The case study of Australia demonstrates that due to the dispersed and decentralised state-based features of its higher education provision, Australia's external studies has a long tradition of integrated dual model in a less industrialised form of education. However, in the 1980s, the Commonwealth Government formulated an innovative policy for reforming Australia's external studies based on the principles of centralisation, rationalisation and economies of scale. As analysed in the Case Study, this is criticised as a Fordist orientated policy by many critics. The rapid changes and shifts in both practices and policies of distance higher education in Australia during the intersection of the 1980s and the 1990s indicated the weakness of copying the Fordist paradigm from the mainstream system into the Australian context. This was mainly because that Fordist approach did not fit Australian integrated dual model of external studies within the Unified National System of higher education. In addition, the Study shows that the new development towards a more integrated system of various study modes with more open and flexible policies, represented by various open learning initiatives occurring since the 1990s can be interpreted within the neo-Fordist (and post-Fordist in the future) conceptual framework.

Notes

[1] Many publications by Campion himself and with his co-authors in the 1980s and at the early 1990s have provided a sufficient evidence to show that Campion and his co-authors were major critics of Australian Government's policies on higher education in general and on distance education in particular (Campion & Kelly 1988, Campion 1990a; 1990b; Campion & Guiton 1991, Campion & Renner 1992 and so on). In his article 'Modes of production: Fordism and distance education' published in 1993, Farnes acknowledged that "Campion and his co-authors have had a major

influence on the debate about the future of distance education in Australia" (p.10). In a note of his article 'Open learning in Australia; Government intervention and institutional response' published in 1994, King expressed that "I am grateful to Campion for the clarity of his analysis of Australian Government policy in relation to the debate about Fordism". It is well known that King himself is another major critic of Goverment's policies on distance higher education (1989, 1992, 1993a, 1993b). Finally though Rumble holds a fundamentally critical position to Fordist conceptualisation, he states: "The issues raised by Campion and his co-authors, and by Raggatt and Farnes, are important - for their resolution will help shape the way in which distance education structures itself in the future" (Rumble 1995c: 28).

Chapter 8

The Chapter 8 contained 54 pages (pp. 222-275) with 19,137 words originally

Administrative and Operational Organisation

Introduction

This chapter addresses the critical issues of the distance higher education systems in Australia and China concerning administrative and operational organisation which were identified in Chapter 6 (refer to Table 6.1.2 and the statement which followed).

Chapter 3 has shown that since the 1970s, the autonomous distance teaching universities or simply open universities have become the mainstream system in the development of distance higher education. Paralleling their practical development, their theoretical reflection has also developed as the mainstream in distance education literature. As analysed in Chapter 4 and 6, China has a national triple system of distance higher education with single, dual and quasi modes. China's correspondence higher education (CHE) represents a separated dual model system, the RTVUs education (RTVUE) has been identified as a national multi-bodied system with a five-level hierarchical structure and China's state administered examinations of higher education for independent study (SEHEIS) system was recognised as a quasi mode of distance education. In the case of Australia, Chapter 5 and 6 have shown that Australian external studies represents a dispersed and integrated dual model, and the Australian open learning initiative is identified as a multi-institutional consortium of collaborating partners within the existing national higher education system. Both systems in Australia and China are quite distinct from the mainstream system in their administrative and operational organisation.

This chapter starts with an argument that whilst the single national open university model dominates theoretical debate it is not representative of the majority of institutions worldwide. This is followed by an intensive debate about competitive and strategic advantages and disadvantages between the mainstream system (autonomous large scale distance teaching universities) and other

models of distance education provision (especially, dual mode institutions and the multi-bodied systems) (Section 8.1). After that, two case studies in China (Section 8.2) and Australia (Section 8.3) comprise the main body of the text. These case studies are focussed upon two key issues:

* the present administrative and operational organisation of distance higher education systems in both countries are the results of historical development in their educational and social environments;
* the debates about whether they need a single national open university or not and the implications of these debates.

Section 8.1

Debates on Organisation and Administration Between the Mainstream System and Other Models of Provision

It is first argued in this section that this mainstream model of developing distance higher education has never become the majority in the world and it is a farrago in which the single national open university model such as the UKOU in the UK is only the minority. Then the focus of the section shifts to the debates on competitive and strategic advantages and disadvantages between the mainstream system institutions and other models of provision of distance higher education.

Autonomous distance teaching universities: the mainstream but not the majority

Many assume that the single autonomous mono-institutional model, even a single national open university model represents the mainstream and the majority of distance higher education institutions. However, this is not in fact the case. The fact is that since the 1970s, under the influence of the UKOU's shock waves, Australian and Chinese, as German, American, Canadian and peoples in other parts of the world have asked themselves should they set up a national open university something likes the UKOU, or more generally, should they establish an autonomous distance teaching university outside the existing system of conventional higher education? The responses from policy-makers and institutions and the practical developments have been very different in different parts of the world. In today's world, the mainstream model of the single autonomous mono-institution represents the minority not the majority among distance education providers at university level.

From the First Report on the Index of Institutions Involved in Distance-Learning: The State of Distance-Learning Worldwide in 1984, presented by Perry, only 124 institutions of total 304 (41%) were founded for distance-learning primarily, and the other 180 (59%) were conventional institutions providing distance-learning (Perry 1984: 7). A brief summary of non-mainstream provision of distance education at university level in major parts of the world follows.

* There were only 14 independent correspondence colleges (12 of them were national and the other two were regional) and more than 600 conventional universities and colleges providing correspondence education in the former USSR.

* A similar situation could be found in China (see Chapter 4 for a detail) and other Eastern European countries. For instance, in former Eastern Germany 30 of the total 54 conventional universities and colleges engaged in distance education provision.

* In North America distance education courses at university level have usually been provided by conventional universities and colleges. In the early 1980s at least 20 Canadian conventional universities had correspondence or distance education departments. In the 1990s, about 250,000 Americans enrol annually in correspondence courses provided by over 70 members of the National University Continuing Education Association (NUCEA). College-level television courses, known as telecourses, are produced by universities, public broadcasting stations and, above all, by community colleges. More than 1,000 post-secondary institutions sign on each year for courses broadcast by the Public Broadcasting Service. In addition, all major universities have satellite up-link hardware, production studios and personnel. Programs are produced at undergraduate and postgraduate level, with a large proportion being for continuing professional education. The National University Teleconference Network (NUTN) is a consortium of 260 organisations providing or receiving a range of over 100 college programs by satellite. Another consortium, The National Technological University, consists of 94 engineering colleges; most courses are broadcast directly to workplaces. Moore wrote his comment on this matter in 1995: "In the United States there is no autonomous integrated multimedia delivery system such as those of the open universities in other countries. There are tens of thousands of instructional programs for distant learners, provided by universities, colleges, schools, corporate training departments and the armed forces" (Moore 1995: 32).

* Only in Western Europe, according to the above mentioned Perry's Report, has the proportion of 'pure' distance-learning institutions reached nearly 60%. This is probably due to the fact that conventional institutions in Western Europe, being older and more traditional than in other regions, have been less willing to embark upon the new-fangled method of distance-learning so that governments have had to start new institutions in order to promote distance-learning (Perry 1984: 7). Nonetheless in France 18 of the 75 French universities had Centres de Tele-enseignement Universitaire (CTUs) in the early 1980s (Keegan & Rumble 1982a: 23). Finally, even in UK there has been a trend to develop dual mode distance provision in some conventional universities since the 1990s. Bayliss pointed out this recent trend in her report 'Postgraduate distance learning in British dual mode universities' in 1995:

> There is some evidence to suggest that there is a trend towards diversification into dual mode delivery and that there has been a marked increase in the provision of distance learning courses in British campus-based universities over the last few years. For example, Tight (1987, p. 15) noted that, at that time, 'a few' British universities were offering at least one distance

> learning course alongside their campus-based courses. Six years later, Tait (1993, p. 4) noted that at least 15 MBA courses were available through distance learning in British higher education institutions.
>
> Bayliss 1995: 46

Furthermore, even among autonomous distance teaching universities, there are differences across their organisational structure. Those countries which established some kinds of autonomous distance teaching universities (DTUs) might be divided into several sub-groups:

1 with a single national DTU - such as the Open University in the UK;
2 having several national and independent DTUs - such as the Sukhothai Thammathirat Open University and Ramkamhaeng University in Thailand;
3 with a national DTU plus several regional DTUs - such as the Indira Gandhi National Open University and several state-based open universities in India;
4 with a single regional DTU - such as the FernUniversitat in Germany and the University of the Air in Japan;
5 having several regional and independent DTUs - such as Athabasca University in Alberta, Open Learning Agency in British Colombia and other parallel state-based DTUs in Canada.

In conclusion, the mainstream literature on distance education may be misleading for the autonomous mono-institution model does not represents the majority among the various types of distance higher education provision, nor does the single national open university model on the lines of the UKOU represent the majority within the mainstream providers.

Debate on competitive and strategic advantages and disadvantages between the mainstream system and other models of provision

At the beginning of the 1990s, an intensive debate on competitive and strategic advantages and disadvantages between the mainstream system (ie. large scale autonomous distance teaching universities) and other model provision (eg. Australian integrated dual mode institutions and various multi-bodied collaborative models) of distance education occurred again. The first catalyst of the debate was publication of Rumble's article in Open Learning with a very challenging title "Competitive vulnerability of distance teaching universities" in 1992. In the same year, responses were published from White and Mugridge, leading figures in Australian and Canadian distance education communities. Two years later, Keegan contributed a response to Rumble's article with the title "The competitive advantages of distance teaching universities" and Rumble presented his reply to all three authors mentioned above in the same year (1994).

In his challenging article published in 1992, Rumble examined the vulnerability of the 26 or so distance teaching universities (DTUs) around the world to competition both from the increasing number of campus based universities (CBUs) taking initiatives in distance teaching, and the dual mode universities (DMUs) which have worked across a range of methods for some years. Also he

questioned whether there is a future for the single mode university in a competitive environment. Rumble argued that the current position in the UK, Australia and the USA had shown "the strategic vulnerability of DTUs":

> It has long been clear that, at least in principle any CBU may launch a cost-effective distance program, thus transforming itself into a DMU which can take advantage of the cost characteristics of the dual-mode approach, and the access to a much wider profile of courses, to challenge a DTU. Such distance teaching can also be combined with a growth in more traditional part-time provision (day- and evening programs) and on-campus resource-based teaching to make the most effective use of the total resources available to the DMU.
>
> The evident growth, for social and demographic reasons, in the part-time market has led to changes which may well affect those DTUs which, to date, have enjoyed a monopoly position. For CBUs, there is an evident market which they can enter with confidence, in the knowledge of the advantages which DMUs already have in many parts of the world. ...
>
> The fact that many DTUs rely on the facilities and staff of CBUs (for teaching space and tutors) puts them in a weak position, should a CBU, in developing its own distance taught system, decide to refuse to allow its facilities to be used to support the DTUs programs. Here, too DTUs are peculiarly vulnerable.
>
> Further, there is no reason why a CBU should necessarily go it alone. One particular model is to establish a small, centralised organisation which provides a framework for the delivery of distance-mode versions of on-campus courses developed by a number of institutions. ...
>
> These models have all the advantages of DMUs, while providing CBUs with the support and expertise of a centralised coordinating body, and a ready-made collaborative framework with which to facilitate the movement of students between participating institutions. ...
>
> These developments, if widespread, would leave DTUs in a vulnerable position.
>
> Rumble 1992b: 40-1

Rumble concluded "While there are a number of strategies which DTUs can adopt, nearly all of them can also be copied by a CBU once it has adopted distance teaching. Thus the most effective response for a DTU many well be to turn itself into a DMU, either by establishing an on-campus program, or by merging with a CBU" (Ibid: 43).

In his response (1992) White argued that DTUs and CBUs have very different advantages and disadvantages. Concerning DTUs, White emphasised following key advantages: (1) quality of multimedia course materials; (2) progress in using educational technologies; (3) pedagogical advances; (4) expertise in course development and instructional design; (5) infrastructure of course production and delivery; (6) student support structure. All these have been built up over twenty year or more and cannot be beaten easily. Concerning CBUs, White pointed out that it is not easy to change CBUs into DMUs because that it is not easily and cheaply to be done for CBUs: (1) to reorganise and redistribute the institutional resources and structure to join distance education seriously; (2) to overcome the hurdle of producing quality multimedia instructional materials; (3) to change the attitude of academics towards distance teaching; and last but not least important, (4) the cost of turning conventional lectures into quality distance teaching materials would be much higher. White believed that DTUs (or DMUs in Australia) and CBUs will not feel threatened by each other because the decision by CBUs to set up quality distance teaching or mixed mode teaching and

converting themselves to DMUs can only be applauded by DTUs, because "(ultimately) all students will be the winners". According to White, the integration or "mixing of distance teaching and face to face mode", that is, "bringing together the best of both worlds" is "the way of the future", especially for Australian DMUs (White 1992: 59-60).

The key points emphasised in Keegan's response can be summarised as follows:

- The achievements of DTUs and their historical contribution to new status of distance education and open learning worldwide.
- The strengths of DTUs, especially, the economic advantages of DTUs (ie. economies of scale) in contrast to the economic vulnerability of DMUs (eg. in Australia).
- There will be a continuing development in the world for DTUs and for other model especially multi-bodied multi-level network system as well.
- The DTUs and DMUs should work more collaboratively but not competitively to achieve further credibility of distance teaching.

In a reply article published in 1994, Rumble insisted that, first, imperatively in the process of searching for improved productivity and greater efficiency by adopting of resource-based and open learning methods, CBUs become DMUs and direct competitors to DTUs; second, "although DTUs start from a strong position (...), their position can quickly be eroded"; third, "many would-be students choose courses on the basis of price and the credentialing power of an institution's name, rather than on the quality of their materials. Funding agencies may also look at the unit cost rather than the quality of programs"; "These developments have opened up the possibility of competition" (Rumble 1994: 47). Rumble accepted Mugridge's contention that his article was informed by the position the UK Open University finds itself in. "Ten years ago nobody in the UK Open University thought that there was a serious threat to its hegemony. Now we know better" (Ibid: 48).

Both case studies in Australia and China will show their relevance to these arguments and debates.

Section 8.2

Case Study of China: A National Triple System With Single, Dual and Quasi Modes

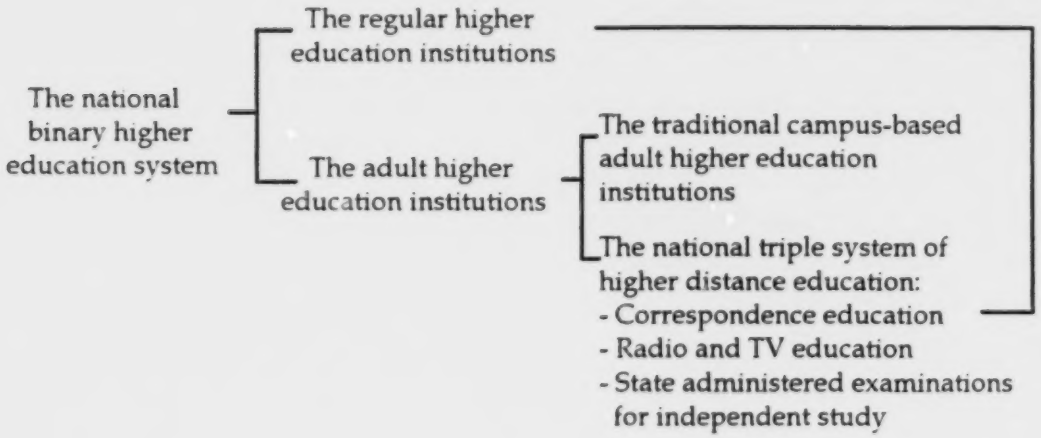
It has been seen from Chapter 4 that China has a national triple system of distance higher education consisting of CHE, RTVHE and SEHEIS which have been identified as dual, single and quasi modes respectively. To understand why besides dual mode correspondence higher education (CHE), China has also developed single and quasi modes, and why China's radio and TV higher education (RTVHE) has formed such a system with so colourful and competitive a structure and

model, it is necessary to examine all relevant elements, their relationships and interactions within and outside the China's DHE system.

Regular higher education and adult higher education in China

Chapter 4 has shown that China's national triple system of distance higher education, consisting of correspondence education, radio and TV education, and state administered examinations for independent study, is mainly for adult learning. However, these higher education providers comprise only the distance sector of adult higher education which has two sectors, the other one is traditional adult higher education. The word traditional here refers to face-to-face or campus-based form of education for adults. This traditional sector of adult higher education includes several kinds of institutions: the Workers' Colleges, the Evening Schools or the Spare-time Schools, the Educational Colleges, the Institutes for Administration and the Peasants' Colleges. These traditional adult higher education institutions accept mature-aged learners from various sectors of society: workers and staff members, teachers in high schools, cadres (eg. administrators and managers etc.) and peasants (farmers). These traditional adult institutions of higher learning provide campus-based spare-time, part-time or full-time studies for some kinds of certificate or degree in particular specialities at undergraduate level, or just for updating the knowledge and skills in some single-subject programs (Zhou, Y. 1990). Again, all those adult higher education institutions including both distance and traditional providers constitute only the adult wing of China's national binary higher education system, the other wing of which is the regular higher education institutions with the full-time studies for the young school leavers as the main task. In summary the whole national system of higher education in China can be illustrated in Figure 8.1.

Figure 8.1 China's National Higher Education System


The national binary higher education system
The regular higher education institutions
The adult higher education institutions
The traditional campus-based adult higher education institutions
The national triple system of higher distance education:
- Correspondence education
- Radio and TV education
- State administered examinations for independent study

In addition the basic statistics of China's higher education in 1996-97 is listed in Table 8.1.

Table 8.1 Basic Statistics of China's Higher Education in 1996-97*

Unit: in thousand

Type of Institution	Schools	Graduates	Entrants	Total Enrolments	Full-time Staff	Academics
Graduate Education	740	39.7	59.4	162.3		
Regular Institutions of Higher Education	419	36.7	54.8	149.9		
Institutes for research	321	2.9	4.6	12.5		
Undergraduate Education	2,270	1,977.6	1,913.1	5,681.3	1,250.0	501.1
Regular Institutions of Higher Education	1,032	838.6	965.8	3,021.1	1,035.8	402.5
Adult institutions of Higher Education	1,138	1,027.9	947.3	2660.2	214.2	98.6
1 Campus-based Adult Higher Education	1,088	372.7	463.8	1,237.3	165.1	76.1
1.1 Workers' Colleges	680	93.3	114.7	326.2	83.1	39.2
1.2 Peasants' Colleges	4	0.4	0.5	1.0	0.3	0.1
1.3 Institutes for Administration	164	61.8	67.2	153.8	37.5	14.5
1.4 Educational Colleges	240	80.6	80.0	205.4	44.2	22.3
1.5 Run by Regular Institutions						
- Evening Schools		70.8	108.9	330.5		
- Full-time Courses for In service Adults		64.4	90.4	215.9		
- In-service Teacher Training Courses		1.4	2.1	4.5		
2 Distance Higher Education	50	700.2	483.5	1,422.9	49.1	22.5
2.1 RTVUs	46	187.9	197.1	526.6	47.7	21.8
2.2 Independent Correspondence Colleges	4	3.5	4.5	13.6	1.4	0.7
2.3 Correspondence Divisions Run by Regular Institutions		208.8	281.9	882.7		
2.4 State Administered Exams for Exams Independent Study		300.0				

* This table has been updated. - Xingfu Ding 1998.
Source: DPC of SEdC (1997) *Educational Statistics Yearbook of China 1996.*

It is useful to understand the variety, complexity and large scale of institutional provisions in China's higher education system and the significant development of adult higher education while conducting an organisational examination of China's distance higher education.

The politico-economical influences on development of adult higher education

In the People's Republic of China, adult education as all kinds of educational activity for adults including distance higher education started in early stage of the Republic's foundation. But Adult Education as a generic term representing such an educational arena is quite new and has become popular in the Government's documents and mass media only since the end 1970s. Before that, the terms of Workers and Peasants Education and Sparetime Education had been used in China's educational literature for a long time. This fact indeed reflects the politico-ideological nature of the State power and its educational policy, that is, the politico-ideological consideration and the need for the class struggle used to be the priority in educational policy-making (Zhou, Y. 1990).

Since its foundation in 1949, the People's Republic of China had declared that it was a proletarian dictatorship state based on the alliance between workers and peasants and under the leadership of the Communist Party. One of the most important and urgent tasks for the Young Republic was to choose candidates from workers and peasants and transform them into the Party's and the State's cadres through education and training. Actually, before 1949 in some local revolutionary governments under leadership of the Chinese Communist Party, there was such a educational guideline and working tradition, that is, the cadres' education was more important than national education. 'First the cadre's education, followed by the national education' was the guideline for educational work proposed by the Communist Party in the revolutionary bases of Anti-Japanese War (Zhang, V 1990: 392). Except the politico-ideological reason, the need of a great number of various professional personnel for the new Republic's socialist construction was another significant driving force for developing all kinds of adult education and training including adult higher education. This appeared much more serious in the early 1950s when a historical transition period from revolutionary wars to economical construction was coming. This was because that the new Republic had inherited a very weak and underdeveloped infrastructure of education and culture from an economically backward old China, and the various professional personnel for economical construction were extremely short. An educational policy was proposed to try solving this problem: to develop adult education (ie workers and peasants education, or sparetime education) ranging from illiteracy elimination to adult higher education at a large scale. This policy has been developed in the 1950s and early 1960s. In the *Common Program*, as the first embryonic constitution for the New Republic, formulated during the Chinese People's Consultative Conference in 1949, it was stipulated that "sparetime education for labourers and cadres' in-service education must be strengthened" (Zhou, Y. 1990: 579). In his 'Report of Suggestions Concerning the Second Five-year Plan of Developing National Economy' at the Eighth National Congress of the Chinese Communist Party in 1956, the former Premier Zhou Enlai pointed out: "In order to train constructional personnel we need also to develop part-time education: to choose those qualified educable people from workers and staff members and send them to evening schools and correspondence schools for studies, and cultivate them to become high and median level professional personnel gradually" (Zhou, E. 1956: 140-1). Since 1958, a guideline for economical construction called 'walking on both legs' (ie to develop economy by all means either formal, central, modern and concentrated instrumentalism, or

informal, decentralised, traditional and dispersed one) has been introduced to the educational arena to support the policy of developing adult education. In the education system, the guideline 'walking on both legs' means the development of all kinds of part-time education for in-service adults along with the development of regular education mainly for the young generation at various levels. In 1965, the Former State Chairman Liu Shaoqi proposed an idea of 'two working systems and two educational systems' systematically (3DHE of SEdC 1988: 49). The idea supposed that in China there could form two working systems: one working full-time and the other working part-time, in addition to this, education will also be divided into two systems: one studying full-time and the other studying part-time or spare-time. In this way it was envisaged that the workers and peasants could be intellectualised and the intellectuals could become working class members, in other words, the Marxist ideal of reducing and abolishing the differences between mental workers and physical workers could be reached, and everybody educated and working in the new systems might be a completely developed human being with all dimensions. Since then a lot of half-working (or half-farming) and half-studying schools as well as many vocational and agricultural schools were set up. These policies and guidelines have been incorporated into the Communist Party's Educational Guideline: "Education should serve for proletarian politics and be combined with the productive labours". All these and many others were told to be a component of Mao Zedong's educational thinking and was a revolutionary and creative development of Marx-Leninist educational thinking. They formed the politico-economic driving force and policy basis for initiatives and developments of all kinds of adult education including both campus-based and correspondence higher education for adults (mainly workers, peasants, soldiers and their cadres).

The development of correspondence higher education in China was also influenced by the USSR during the 1950s and 1960s. After the October's Revolution, the USSR developed correspondence higher education and declared that this was an indicator of educational equality for all people and a strategic way to educate and train constructional personnel for the socialist industrialisation. In 1919 the Eighth National Congress of the Soviet Communist Party approved a resolution of supporting workers and peasants in their self-study. Since the 1920s the Soviet People's Commission approved a resolution on correspondence higher education and a series of regulations concerned, and the correspondence higher education has been developed by conventional universities and colleges around the nation and several independent correspondence colleges have also been established. All correspondence higher education provisions were run by the State and put into the national program of developing higher education. The concerning resolution and regulations pointed out that correspondence students were all fee-free, enjoying regulated study-leaves with pay and the graduates could have the same status and benefits as others graduated from conventional full-time programs. In the 1980s there were more than 600 conventional universities and colleges providing correspondence education with enrolments of about 2 million, accounting for around 40% of total undergraduate enrolments in the USSR. Among the engineers and technicians, about 40% of the total were produced by higher correspondence and other kinds of part-time adult education. After the foundation of the People's Republic of China, the USSR was the only example for its socialist

economical construction including restructuring of higher education. "To learn from the Elder Brother of the USSR!" was a most popular slogan in the 1950s in China. The great development and significant achievements of the USSR's correspondence higher education and its organisational structure and mode indeed made a very deep impression on Chinese politicians and educators. In 1953, China had finished its three year plan for economic recovering and began to conduct a large scale economical construction of the first five year plan (1953-57), there was a great demand of enormous professional personnel for various departments of economical construction, especially for its industrialisation. A great number of economists, administrators, managers, scientists, engineers and technicians, and also teachers at various levels needed to be supplied to various parts of the nation. In 1953 about 3 thousand correspondence students majoring in finance and economics were enrolled initially in the People's University of China. This was the start of correspondence higher education in China. The Northeast Normal University began its correspondence programs for middle (secondary) school teacher training at the same year. Since then till 1965, there were 123 regular universities and colleges (and three independent correspondence colleges) had developed correspondence education in a widespread range of study fields. The correspondence enrolments reached 149 thousand, accounting for one fourth of total full-time enrolments at the that time, and the accumulative total graduates were over 80 thousand (Zhang, V 1990, Zhou, Y. 1990).

The Cultural Revolution extended from May 1966 to October 1976 and this decade of internal turmoil seriously disrupted the functioning of, and inflicted heavy losses on the whole China's education. Among which adult education including correspondence higher education and radio and TV higher education suffered the most serious. They were forced to be closed or dissolved. Ironically, why did the Cultural Revolution destroy culture and education? Indeed, the main reason for it was also drawn from the politico-ideological considerations and the need of the class struggle supposed by Mao Zedong while he initiated and produced this unprecedented revolution (Zhou, Y. 1990: 66-105).

* As envisaged by Mao Zedong, the Cultural Revolution was "a great political revolution of proletariat against bourgeoisie", or a mass campaign of class struggle in protecting China from the peaceful evolution returning to the capitalist society and against the modern revisionism. The main objectives were to fight the capitalist roaders in power, criticise the reactionary academic 'authorities' of the bourgeoisie, and completely change the phenomenon of bourgeois intellectuals reigning over the schools and universities. All his viewpoints were generalised into the "theory of continuing the revolution under the dictatorship of the proletariat, taking class struggle as the guiding principle." At the same time, Liu Shaoqi and Deng Xiaoping became the first and second largest capitalist roaders in the CPC supposed by Mao Zedong. Academic and educational circles, especially the higher education institutions were envisaged to be the most diehard revisionist strongholds occupied by the capitalist roaders in power and reactionary academic 'authorities'. The idea of 'two working systems and two educational systems' was criticised thoroughly because Liu Shaoqi used to advocate it.

Distance higher education, along with other kinds of adult part-time and sparetime education suffered a lot from such a politico-ideological revolution.

* During the Cultural Revolution, the opinion of strengthening socio-economic construction was criticised as a revisionist theory: the theory of unique importance of productivity, which supposed a counteractionary theory because it was against the Mao Zedong's thinking of 'taking class struggle as the guiding principle' and impacted vigorously on political campaign and the cultural revolution. As a result, the need for qualified manpower and various professional personnel could not be put into the national agenda. The curricula for all levels of education in China became the similar. According to the Mao Zedong's instruction, in all schools, colleges and universities there were same courses: to learn politics, to receive military training, to learn from working class and poor and lower-middle peasants, and to criticise bourgeoisie. There was a thoroughly continuing criticism on the reactionary academic 'authorities', and criticism on the ideology of the bourgeoisie and all the exploiting classes. The traditional education and culture, the sciences and technologies, the general knowledge and liberal arts, the intellectuals and professional personnel, the academics in universities and teachers in schools were all not received the least respects. The necessity for developing adult higher education including correspondence and radio and TV education seemed to have disappeared.

* A specific instruction concerning the operation of science and engineering universities issued by Mao Zedong in July 21st 1968 had some implications to the higher education for adults. What Mao Zedong said was: "We still have to run universities. What I say here are principally universities of science and engineering courses which still have to be managed. But schooling should be shortened and education revolutionalized. Proletarian politics should be put in command and the road for the Shanghai Machine Tools Factory should be followed to choose students from among the workers and peasants and send them to schools to study several years before returning to productive practice." This was known as 'the Road of July 21st" later, which was a completely different adventure from those adult higher educational provisions before the Cultural Revolution. In these 'July 21st Workers Universities', the working class must firmly hold the leadership, the class struggle and criticism of bourgeoisie should be a major course. The worker, peasant and soldier students must be allowed to study in the universities, to manage the universities and to use Marxism-Leninism and Mao Zedong Thought to remould the universities. The philosophy of comprador foreign lackeys and snail-paced education should be completely discarded in compiling new proletarian teaching materials. Great attention should be paid to the transformation of the standpoints and feelings of the teachers. All these principles show that it was not about running the university education but just a political institution for the particular needs of the class struggle.

The downfall of the 'Gang of Four' in late 1976 marked the beginning of a new historical era in China. Since 1979, in accordance with the strategic decision laid down by the Third Plenary Session of the 11th Central Committee of CPC, the focus of work of the Party and the State has been shifted to economic construction with socialist modernisation as its goal. In the decision reached by the 12th

National Congress of CPC in 1982, education has been set up as one of the priorities of socialist construction and modernisation. The fundamental change of situation in this period was effected on the educational front, creating a favourable environment for the rehabilitation and further development of education. The wrong-doings in the sphere of education began to be rectified. The influence of the 'Leftist' ideology in educational work has been overcome gradually. The mistake of underestimating education, underestimating knowledge and underestimating intellectuals began to be corrected. Various educational institutions at all types and levels underwent readjustment, a good order of teaching and learning was gradually restabilised and the quality of education was steadily improved. It was rightly within such a favourable socio-politico-economic and educational environments, the correspondence higher education has been resumed and further developed. As early as in August 1977, Deng Xiaoping, Vice-Chairman of the Central Committee of CPC at that time, in his speech on behalf of the Party Central Committee in a discussion on the work of science and education, pointed out that "Our nation would catch up world's advanced column, what can we do from outset? I think, we should begin our work with science and education." Concerning the educational system in the same speech, Deng said: "Education must keep the guideline of 'walking on both legs'. Concerning higher education, regular universities and colleges are one leg, and various half-working and half-studying and sparetime universities are another leg, to walk on both legs." In 1980, there were 69 regular higher education institutions which had resumed correspondence education already. In 1985 the number of regular universities and colleges with correspondence provision reached 311. In addition, a national system of radio and TV universities was founded in the end 1970s and has developed rapidly since the 1980s (Zhou, Y. 1990: 106-120).

In short, distance higher education, as other sectors of higher education in China has always been influenced significantly by the political and economic situations. In the early years of New China's foundation and in the new historical era of reform and opening policies since the end 1970s, Chinese politics emphasising on socio-economic construction was a great driving force for developing distance higher education. However, during the decade of the Cultural Revolution, distance higher education, along with all other education and culture became the victim on the political altar for class struggle in Chinese society. Three generations of Chinese people lost their rights in education. The old generation were interrupted in their academic activities and professional careers, the middle one lost their youth, talent and qualification in destructive turmoil and the young generation missed their educational opportunities.

What kind of a national system of RTVUs: centralised, dispersed or multi-bodied and hierarchical?

When the first group of metropolitan RTVUs was set up in the early 1960s, there were only some separated regional TV broadcasting networks covering a few metropolises. There was no national TV broadcasting network in most areas of the mainland at that time. So several dispersed and independent regional RTVUs were built up in autonomous mono-institutional model. While establishment of a national RTVUs system was put into the national agenda in the end 1970s, a

national TV broadcasting network had existed already around the mainland (except Tibet). In addition, the success of the British Open University and its significant impact on international distance higher education has spread widely. It has been seen in Chapter 4 that through the bridge between Mr. Heath and Mr. Deng, the Chinese Government and educational community have known the UKOU well. There were three options facing the decision makers in Chinese Government and its Ministry of Education:

1. to set up the CRTVU as a national open university as an autonomous mono-institutional model, that is, to make all provincial RTVUs branch institutions attached to the CRTVU;
2. to establish a national dispersed system of RTVUs, that is, to make all provincial RTVUs independent and autonomous distance teaching institutions with full distance teaching functions and to encourage various kinds of competition and collaboration between them;
3. to build up a unique national system consisting of a CRTVU and all PRTVUs and make all of them independent and autonomous in finance and administration, but closely co-existing with each other in educational operation, that is, a model which later became known as a national multi-bodied hierarchical system with a five layer structure.

In fact, the Report jointly submitted by the Ministry of Education and the Central Bureau of Broadcasting on 3rd February, 1978 proposed "to set up and operate a national radio and TV university" (CRTVU 1989a: 1), that is Option One.

However, at the end of the same year (1978), at the Closure Session of the First National Working Conference on Radio and TV Universities held in Beijing on 3rd December, the Vice-Premier Fang Yi at that time proposed a decentralised and dispersed scheme consisting of various provincial TV universities, that is the Option Two. In his speech, Fang Yi said that "I would not suggest to set up a national unified TV University, ... I do not prefer that a national TV University headquarters in Beijing, then Branch School is set up in each province. This is no good. What it should be is that there is the Beijing TV University in Beijing, Shangdong TV University in Shangdong province and Shanghai TV University in Shanghai. ... There should be no headquarters and branches, but various provincial TV Universities try their own best ways ('Baxie guohai, gexian shengtong' in Chinese)" (Fang 1978: 3).

After the First National Working Conference, the Ministry of Education and the Central Bureau of Broadcasting submitted a Report and "the Provisional Scheme of Central Radio and TV University" in December 1978 and the State Council approved the Report on 11th January 1979. In this Report and the Provisional Scheme, a national multi-bodied system mainly comprising the CRTVU and various PRTVUs was formulated, that is Option Three became the last choice at the beginning of 1979, which laid down the foundation for later development of China's unique multi-bodied hierarchical model of RTVHE. The Report pointed out:

> It must be emphasised to bring both central and regional initiates to full play. The Ministry of Education and the Central Bureau of Broadcasting jointly run Central Radio and TV University, within current circumstances, responsible for working out educational plans, producing and transmitting educational programs, organising and compiling course materials and teaching supplementary materials, researching and drawing out necessary regulations, summarising and exchanging instructional experiences, and establishing academic relationships with various Provincial radio and TV universities. Each province, autonomous region and municipality should set up a radio and TV university. The PRTVUs' guideline and policies, mission and tasks, operation schemes, teaching plans and so on are all decided by various provincial, autonomous regional or municipal government according to their contexts independently. It is encouraged that various PRTVUs try their own best ways ("Baxie guohai, gexian shengtong") to demonstrate their own uniqueness and to promote each other. At present, except for a few provinces and municipalities, it is difficult to operate RTVUs independently for most of provinces, autonomous regions and municipalities, they need access the courses provided by the CRTVU. Nonetheless, each province, autonomous region or municipality can innovate the curricula and change some courses based on their regional needs, and make efforts to offer courses independently as soon as possible. Teaching and tutorials, organisation and administration should also be made suitable to local conditions, that is, there should not be a centralised and unified model, but adoption of various models and flexibility.
>
> cited from CRTVU 1989a: 10

Following is an analysis of China's RTVUs system's multi-bodied hierarchical model. This model has at least three basic organisational features (refer to Figure 4.2 in Chapter 4):

* "the system used for the organisation of RTVUs parallels China's system of regional and national governments and thus is a five-tiered structure" (Xie 1989b: 9-10), and the Central Government keeps the ultimate power in policy-making and all significant decisions in both administration and academic areas;
* the provision of RTVUs at a certain level, its budget, personnel appointment of major positions, key decision-making including approvement of recruitment plans and educational programs are all under the strong leadership and control of the same level government and its educational department; and
* the relationships between upper and lower level provision of RTVUs (ie. between CRTVU and PRTVUs, between PRTVU and its Branch Schools, between Branch School and its Work Stations, between Work Station and its TV Classes) are more or less the same: independent in finance and administration but closely co-existing in educational operation (distance teaching and learning).

Presented below is first an analysis for why China's RTVUs system has finally taken such a multi-bodied hierarchical model? in particular, an organisational structure parallel to the administrative structure of governments?

* The Central Government is unable to afford finance, personnel, and administration directly for the whole national system and its various level institutions.

* According to the China's financial system, central and provincial governments take their own responsibilities in finance and education separately.
* Regional and local institutions of RTVUs educate and train regional and local personnel for their own regions and local communities.
* The success of RTVUs system depends on the efforts made by all governments and their educational departments at various levels.

Second is an analysis about the advantages of China's RTVUs system with such a organisational model.

* It is in favour of bringing both central and regional initiatives into full play.
* It is in favour of making full use of the system's integrated advantages and potential.
* It is, at the same time, a flexible system which can meet regional and local needs and be fixed into regional and local conditions and characteristics.

Finally here is an analysis about the conflicts and debates on organisational model within China's RTVUs system. Though a national multi-bodied hierarchical system is essentially a suitable model in Chinese context, there are still some conflicts and debates about organisational structure and administrative function, not only between governments and RTVUs at various levels, but also between CRTVU and PRTVUs, and between PRTVUs and their local institutions (refer to Niu 1989).

* In such a hierarchical model having a parallel structure with governments, the later do hold strong control over institutional administration and operation matters, and the institutional autonomy of RTVUs at various levels cannot be guaranteed constantly.
* There have been two general strands of tendency in the opposite direction: the CRTVU has a trend towards over-concentration and rationalisation based on fully using the system's advantages and potential, and regional RTVUs tend to de-centralisation based on meeting regional and local needs and conditions and protecting their own right and power of schooling.

The debates around RTVUs and CTVTTI models

Indeed, the debate around RTVUs and CTVTTI model are essentially the debate on whether there is a practical need for establishing educational institutions at central and provincial levels or the only matter is to set up a central management agency for arranging course delivery. The supporters of RTVUs model insisted that CRTVU and PRTVUs must be established as educational institutions with their own full-time academic staff and necessary teaching infrastructure, but the supporters of CTVTTI model argued that a central management agency with only a few administrators was the most economically efficient model. Actually, from its start in 1986, the SEdC ask the CRTVU to be responsible for organising STVTT by setting up a Teacher Training School within the CRTVU. But the leaders of the CRTVU at that time were afraid about insufficient resources and refused the

original scheme of an integrated RTVHE system. In those circumstance, the STVTT started from 1986 and the CTVTTI set up in 1987 as a small coordinator agency - an independent institution beside the CRTVU. The administrative nature of the CTVTTI and its close relationship under the direct leadership of the SEdC, made some leaders of SEdC prefer the CTVTTI model and try to force the RTVUs system to copy the CTVTTI model. Undoubtedly, this attempt encouraged a strong rejection from the CRTVU and the whole RTVUs system. After nearly a decade of development and competition the CTVTTI has become a component of the CRTVU and the RTVUs model won the battle. This is a historical conclusion in Chinese context.

But there are some problems concerning academics and their professional development in China's RTVUs system which have some relevance to above debate. In a sense, these problems indicate that the debate between RTVUs and CTVTTI models has not been solved totally. In China's RTVUs system, one opinion supported by the most senior officers in the SEdC and RTVUs insists that the responsibility for course writing and presenting must be taken only by professional experts chosen from RHEIs nationwide, and the duty for full-time academics of RTVUs are merely assistant work in course development and media designing. However, more and more full-time academics in RTVUs system have asked for increasing involvement in course development, including course writing and presenting and for research-oriented professional development. The debate is continuing.

The debates around RTVUs and SEHEIS models

In the first half of the 1980s, the RTVUs education and the SEHEIS have both developed rapidly. Since the mid 1980s, especially after the decision made by the SEdC to limit the open policies of RTVUs education (eg. to abolish the free-listener-viewer system and the single course student system, to introduce national unified entrance examinations for all AHEIs and to control annual quota of new entrants for each PRTVU strictly), the debates around RTVUs and SEHEIS models have arisen. One group of commentators criticised the SEdC's policies as unfair and unbalanced between the RTVUs education and the SEHEIS, while the other insisted that the SEdC's decision and arrangement is suitable and justified (refer to Wang, S. W. 1989).

In short, the main point of the debate around RTVUs and SEHEIS models is focused on that whether the RTVUs should rebuild its open policy and increase its autonomy in educational planning and academic operation or not. Most people in the RTVUs believe that only in a balanced way can the RTVUs education be placed in fair competitive position with the SEHEIS.

A triple system of distance higher education: the competition and collaboration

A nationwide triple system of distance higher education has been formed since the 1980s and from the mid 1980s, the Chinese Government has called for the cooperation and collaboration between various types of higher education institutions, especially within distance higher education sector.

The educational competition has arisen from many endogenous and exogenous factors. Almost all types of higher education institution faced financial problems. For most institutions the annual budgets from governments were not sufficient and the salary and welfare levels of their staff, especially academics needed to be improved. In order to improve their financial situation, they try to expand their higher education programs for adults which can make some extra-budgetary income. As a result, there was an increasing competition in annual recruitment of new intake. In addition, higher education which issues some kinds of diploma and degree have been appreciated as the most valuable investment in everybody's professional career in China. This is especially true while currently China is proceeding with social and economic reforms and higher educational qualifications have been accepted as the necessary prerequisites for professional jobs.

It is shown from above the analysis of the Chinese experiences that both competition and collaboration between various kinds of higher education institutions inevitably co-exist and interact with each other in practice. It is still an open question how to establish a national higher education system in China to combine regular higher education and adult higher education, on-campus education and distance education, and diploma education and non-diploma education all together. In other words more research is needed on the model of post-compulsory education or the model of post-secondary education in China (refer to Dong, M. 1990).

Section 8.3

Case Study of Australia: A National Flexible and Integrated Dual System

In Australia, the origin of distance education at university level started early this century in the form of the integrated dual model. Australian distance educators consider this model not only a historical legacy, but also an indicator of national uniqueness. This case study is concentrated on the debate about organisational models of DHE system in Australia between two groups. Group one prefers to keep the traditional and unique Australian dispersed and integrated dual model, while group two wishes to reform the Australian DHE system by referring to the mainstream model in the world.

Adoption of Australian flexible and integrated dual model is a result of historical development

It has been seen in chapter 5 that Australian external studies have developed as a dispersed and integrated dual model by following the original system taken by the University Queensland in the early this century, and then by the University of New England since the mid 1950s. After the British Open University and other like institutions were established in many countries since the 1970s, a debate on whether Australia needs to set up a single national open university or not, has lasted for over two decades. Also it has been shown in chapter 5 that in Australia there were two explicitly identified major shifts in both Government policy and institutional practice for distance higher education from the late 1980s to the early 1990s: the Dawkins' reform and reorganisation based on

rationalisation and centralisation, and Baldwin's new trend towards more flexible and integrated external studies and open learning. The key indicators of these shifts were the establishment and abandonment of distance education centres (DECs) and development of various kinds of open learning initiative (OLI). Indeed those open learning agencies such as Open Learning Australia (OLA) and Professional and Graduate Education Consortium (PAGE) should be identified as the multi-institutional model of dual mode but not a national provider of single mode. These federations of cooperating partners are set up within the conventional universities system. So at present, in Australia we still find a dispersed and integrated higher education system with more open and flexible delivery modes including internal (full-time and part-time), external and mixed types of study. The system provides more and more open learning units, explores the facilitation of various cross-enrolment and transfer between different courses, credits, study modes, institutions and tries to connect and link up whole tertiary education and workplace training in industries and other communities. Such a flexible and integrated dual model of higher education system in Australia has been a result of historical evolution for the whole century.

Debates on the organisational model of distance higher education system in Australia

There was a S-shape development pattern for Australian Government's guideline of policies on distance higher education in the past three decades:

* In the 1970s, starting from the Karmel Report (1973) in the early 1970s until the Williams Report (1979) at the end of the 1970s, policy was oriented towards the dispersed and integrated system of higher education;
* In the 1980s, starting from the Johnson Report (1983) in the early 1980s, via the Hudson Report (1986), until the Dawkins' ambitious reform (Green Paper 1987, White Paper 1988) at the end of the 1980s, policy was oriented around the principles based on rationalisation and centralisation; and
* Since the beginning of the 1990s started with the Baldwin Report (1991), policy has been re-oriented back towards a national integrated higher education system with more open and flexible and diversified study modes.

In the same period, there has been a continuing debate on policy, practice and theory in sector of distance higher education. Two major groups can be identified from the debate. Although they all have agreed to some basic ideas and principles, however the approaches to realise or achieve these ideas and principles have usually been very different.

Commonly agreed ideas and principles

There are some commonly agreed ideas and principles about distance higher education in Australia by all the parties.

* increasing openness and improving the access and equality issues, in other words, distance education could help transform higher education from an elite system to a mass provider;

* keeping and enhancing the quality and standards of higher education in Australia, eg. through improvement of distance teaching courses provided;
* increasing the cost-efficiency and cost-effectiveness of distance teaching, especially in course production and delivery; and
* encouraging and promoting the use of educational technologies, especially information and telecommunications technologies for achieving all of the above functional objectives.

Group one: preferring a more centralised and rationalised system based on the mainstream model in the world

It is clear that unmet demand (relative to increasing openness, access and equality), economies of scale, quality and standards are three key critical problems proposed by the representatives of the group one against the dispersed and integrated dual model of Australian distance higher education system. In addition to it, the technology problem is also mentioned repeatedly. Among them, group one tends to place the consideration of cost-efficiency, cost-effectiveness and economies of scale in the first priority.

Group two: preferring to keep the traditions and uniqueness of Australian flexible and integrated dual model

Group two prefers and promotes Australia's existing and long-established tradition - an open and flexible dispersed and integrated higher education system as a whole sector and not only regarding external studies. The reasons for this come from not only the conditions of physical and social environments in which the distance education operates, but also from some educational and academic considerations relating to teaching and learning practice and theory.

Physical context: geography and population

The heterogeneity of its population distribution and the size (distance) of its territory are two fundamental features of Australia's physical context which have some implications for Australia's distance education.

* Distance education in Australia has therefore been an inseparable part of the educational system at primary, secondary and tertiary levels since the turn of the 20th century when Australia federated.
* Unlike the Great Britain as a 'tiny' island and China as a subcontinent of vast territory and enormous population and with all provinces inhabited by relatively great numbers of people, a single national open university with a TV broadcasting system covering the whole continent may not be suitable for Australia's unique physical context mainly because of its waste of delivering resources and difficulty of organising learning support services in many parts of the territory.
* The dispersed and integrated system of higher education with one or several universities providing external studies services located in most state and regional capital cities might be quite suited for serving the needs of Australia's higher education.

Political and economic influences

From the very beginning, Australia's dispersed and integrated system of higher education with external degree work was established largely because of political and economic influences. It can be understood through consideration of Australia's political tradition, economic structure and colonialist history.

Historical legacy and existing resistance to maintain its tradition and against innovation

From the outset, under the above detailed political and economic influences, the dispersed and integrated system of higher education has been a long-establishing model in Australia. This is not only a historical legacy, but certainly also an existing and important force which could not and should not be missed or neglected.

The historical legacies of Australian and British higher education germane to external sector were quite different. A major reason for the success of the Open University was that it was operating, as a public body, in virgin territory. No United Kingdom university taught for external degrees; only one, London, even examined. All British universities had high, competitive entrance requirements and all required attendance on campus for instruction. None of these situations prevailed in Australia, and the creation of a new institution charged with special responsibility for open education in external degree work would inevitably have discouraged existing institutions in their present functions and deterred others from starting external work. One of the considerable characteristics of Australian existing system is such a realistic fact: the survival of a number of existing higher education institutions depends on the maintenance of their function in providing distance education. It is well known that some of these Australian universities are situated in remote and rural areas (eg. the University of New England based in Armidale - a remote, small country town in the Northern Tablelands of New South Wales - was the first one of Australian universities not to be placed in metropolises); and some others in those states which are particularly large in size and more sparsely settled in population (eg. Murdoch University), both of which have maintained a commitment to external studies since their foundation. In short, an integrated and proximate model of the whole higher education sector which has three study types of full-time, part-time and external supplemented with each other is a significant Australian tradition.

The educational merits of dispersed and integrated system

* achieving academic parity between on-campus and off-campus studies, ie. keeping the same educational quality and academic standards, and guaranteeing the equivalent values of degrees and certificates issued by both types of study;
* providing a wide range of educational programs and courses at different academic levels and in various study fields;
* keeping all academics working in a research-oriented environment to avoid the segmentation of the two groups of academics serving for on or off campus students separately and thus avoiding possibly ensuing contradictions and conflicts between them; and

* benefiting the academics and especially students through the development of an integrated pedagogy, ie. by drawing on the merits of both distance and campus-based education.

Parity issues: quality, standards and values of the degree
Program and curriculum and target groups
Academic staff - research orientation
Development of an integrated pedagogy

Summary

A critical review at the beginning of this chapter has shown that single autonomous mono-institutional model represented by the UKOU and other DTUs is the mainstream system but these are not the majority in the international family of DHE institutions. Then the focus shifted to examine the debates on competitive and strategic advantages and disadvantages between conventional education and distance education, and between the mainstream system (ie. single autonomous mono-institutional model institutions, especially those large scale distance teaching mega-universities) and other models of provision (eg. integrated dual mode institutions and various multi-bodied model systems) of distance education. According to Rumble, it seems that the future belongs to CBUs and DMUs but not DTUs. Definitely, distance education and its mainstream system should not be recognised as a panacea which resolves all of the supposed problems and crises of conventional education in modern society and as a universal paradigm for all parts of the distance education world. However, various models of distance education and open learning including large scale autonomous distance teaching universities have great potential in the coming century. A summary derived from the debates and both case studies in Australia and China in this chapter follows.

* Concerning interrelationship between conventional education and distance education, a definite fact which remains very clear is that conventional education maintains its position as the mainstream and distance education has never gone beyond its marginal position. Most conventional universities keep their handicraft (or pre-industrial) form of education. Most academics in conventional universities retain their preference for group and classroom based face-to-face teaching and only infrequently apply modern educational technologies (eg. information and telecommunications technologies) in their instruction. Thev continue to consider distance education to be second rate (this is especially true in the case of China). In both Australia and China, just as in other parts of the world, most CBUs, especially those reputable and well-known ones have not converted themselves into the DMUs yet. Nevertheless, there is an increasing number of well-known successful institutions and systems of distance higher education around the world and there is a growth in the number of the CBUs converted into the DMUs.

* Conventional education and distance education have their own competitive and strategic advantages and disadvantages respectively. Group and classroom based face-to-face teaching-learning continues to be the most essential, effective and valuable element of two-way

communications in the educational setting. Nonetheless, along with the development of modern information and telecommunications technologies, various resource based one-way and two-way communications have become accepted worldwide as the alternative ways of delivering teaching-learning.

* DTUs, especially those large scale autonomous ones, represent the mainstream provision of distance higher education in the world in the past two decades. Their successes have made a historical contributions to twentieth century's higher education in many areas, such as in the creation of high quality in the development, production and delivery of multi-media course materials; building up the infrastructure for effective student learning support services; achieving high cost-efficiency, cost-effectiveness and economies of scale; developing modern educational technologies, instructional design and advanced pedagogics; training a great number of qualified professional personnel. The practical development and research in recent years all show that these large scale autonomous DTUs will continue to develop in the next century (refer to ICDL 1995; Daniel 1995, 1996a, 1996b; and Mason 1996).

* For most DMUs, distance education or off-campus studies continues to be treated as second rate by the institutions and a marginal job by the academic staff. However, there are increasing DMUs where on-campus and off-campus studies have been operated in an integrated and parity way. This is especially true in Australian DMUs where flexible and mixed modes of study have been encouraged and an integrated pedagogy has been developed to benefit both on-campus and off-campus students.

* Various kinds of multi-bodied model institutions or systems have been seen as well-established distance education provision. China's national RTVUs system (as a single mode exclusively for distance teaching) and Australia's Open Learning Initiative (eg. OLA) (as a dual mode within the UNS provision) are two among them. The strengths of these models are based on functional division and collaboration which can bring the system's overall potential and individual institutions' priorities to a full play. The Centre of National Education at a Distance (CNED) in French, and the National Technological University (NTU) and the National University Teleconference Network (NUTN) in the US are other significant examples.

* DTUs, DMUs and various multi-bodied model systems have their own competitive and strategic advantages and disadvantages respectively. Educational decision-makers in each country should choose suitable models of distance higher education to meet their national character.

* Both competition and collaboration between various kinds of conventional and distance higher education institutions inevitably co-exist and interact with each other in practice. Competition may promote developments of higher education in access and scale, structure and layout, quality and efficiency; but produce some negative influences as well. Various kinds of collaboration need to be

encouraged and improved by formulating government guidelines and policies and increasing the incentives for participating institutions.

* From an organisational and administrative perspective, globalisation has formed a new trend in the development of distance higher education provision. Given this new dimension of development, DTUs, DMUs and various kinds of multi-bodied model systems will have to face more competition and will need to engage in more collaboration.

Chapter 9

The Chapter 9 contained 53 pages (pp. 276-328) with 19,365 words originally

Distance Teaching and Learning

Introduction

This chapter addresses the critical issues for the distance higher education systems in Australia and China concerning distance teaching and learning which were identified in Chapter 6 (refer to Table 6.1.3 and the statement which followed).

Section 9.1

Debates on Theorising of Distance Teaching and Learning

The main points of this mainstream theory of distance teaching and learning can be summarised as follows:

* Distance teaching and learning is a revolutionary concept, which breaks the 'space-time barriers' of on-campus education and represents a 'space-free' and 'time-free' form of education. There is a close relationship between distance education and open learning.
* Distance teaching and learning is based on non-contiguous communication by using various educational technologies and instructional media. There is a close relationship between distance education and information technology.
* Communication and control theories are widely applied in theorising distance teaching and learning. The concepts of communication, interaction and control have been introduced to interpret distance teaching and learning processes.
* Distance teaching has been identified as an alternative form of teaching delivery. There are two basic kinds of delivery, one is in the form of pre-produced multi-media course materials, the other is learner support services.

* Distance learning has been identified as a particular kind of learner-centred learning. Individualised learner, independent study, and learner autonomy and control are proposed to be the central concepts which provide distance learning with new strategies in a new environment.

This mainstream conception of theorising has been used to justify distance teaching and learning in general and particularly to interpret the practice of teaching and learning in mainstream distance teaching institutions. However, there are numerous debates concerning distance teaching and learning theorising.

Debate on openness of distance teaching and learning

According to Wedemeyer, the only way to break the space-time barriers of on-campus education is by separating teaching and learning. Based on this argument, the concept of a close relationship existing between distance education and open learning is generally accepted. "Distance education systems by their very nature tend to exhibit open features" or "distance education systems tend towards openness in so far as they are 'time-free' and 'space-free'" (Rumble 1989: 28, 35).

As a result of open and equity oriented admissions policies, the distance teaching universities have to teach and manage very heterogeneous student bodies. This very diversity can pose problems which need to be properly acknowledged and solved by the distance teaching universities in their planning, designing and operating of open and flexible systems in both aspects: teaching and learning, and student administration. In other words, the concept of openness goes beyond an open admissions policy. More importantly open learning means to open or liberate the teaching and learning from traditional space-time restrictions by using various educational strategies and means including instructional technology and media.

However, some authors emphasise that "A distance teaching institution could also be a 'closed' one" (Dewal 1986: 8), and "Open learning is not synonymous with distance education; nor is distance education a sub-set of open learning" (Foks 1987: 74). Lewis used the model of 'The open-closed learning continuum' to analyse the Open University's undergraduate program (Lewis 1986: 8-9). His conclusion has been cited by Rumble:

> Most distance education systems will be open in some respects, and closed in others. Lewis, for example, described the Open University's undergraduate program as 'very open' in respect of who can enter, and why it is taken (the choice to enter the program being very much with the individual); moderately open in respect of where study has to take place - the compulsory nature of summer schools limited openness to some degree; both open and closed in respect of what is studied (the syllabuses of individual courses are largely fixed, but individuals can choose which courses to take from the array on offer, and to some extent which modules within a course to study) and how to study (courses are multi-media so there is some redundancy of materials, but little advice is given on what pathways to follow through a course); and very closed in respect of when (the paced nature of assessment sandwiched between fixed start and final examination dates) (Lewis 1986).
>
> Rumble 1989: 33

Debate on educational technology and mediated teaching models

In 1972 a Report and Recommendations by the Carnegie Commission on Higher Eduction entitled 'The Fourth Revolution, Instructional Technology in Higher Education' commented that "Higher education (and education generally) now faces the first great technological revolution in five centuries in the potential impact of the new electronics" (CCHE 1972: 1). This is especially true for distance higher education. Distance education and technology are inseparable and the theory and practice in distance education have evolved based on innovative and increasingly sophisticated educational technology. The generation conception of distance education and educational technology has been introduced and developed by various authors in the past decade (refer to Garrison 1985, Nipper 1989, Bates 1991).

Daniel (1995, 1996a, 1996b) examines generation conception of distance education with a focus on its pedagogical and institutional implications. In his address, Daniel used the term 'knowledge media' invented by Marc Eisenstadt (refer to Eisenstadt 1995) to describe the new generation of technologies and media as "the convergence of computing, telecommunications and the cognitive sciences".

For over a decade there has been an ongoing debate about the essential nature of instructional media, that is, whether or not instructional media do, might, or ever will influence teaching and learning in general, especially in the context of distance education. Ever since Schramm published his now classical study Big media, little media in 1977, it has been generally admitted that any claim about the superiority of one medium over another has limited relevance. However, the protagonist of scepticism is Clark. In his article entitled 'Theory and practice in the use of technology', published in 1993, Bates, a protagonist in research field of educational technology and instructional media within the context of distance education, challenged Clark in this way: "Despite a widespread belief, particular in the USA (see Clark 1983), that there are no significant pedagogic differences between media (for instance, a lecture delivered by television is just as effective as if delivered face-to-face), shifting even the same medium (eg. television) from one technology to another (eg. from broadcast to videocassette) has significant pedagogic implications" (Bates 1993: 215-6). The main points of Bates argument are as follows.

* Media differ in the extent to which they can represent kinds of knowledge, because they vary in the symbol systems that they use to encode information (Based on Salomon (1979), there are three basic kinds of symbol systems: digital, analogic and iconic).
* Media also differ in the way they structure knowledge (eg. knowledge can be structured in linear or sequential way either temporally or logically; or in wide variety of alternative ways in which the relationship of multiple variables simultaneously occurring could be shown).
* Media differ in the extent to which they can help to develop different skills (Salomon 1979). Part of this relates to the control characteristics of technologies and part to the presentational features

(eg. technology can provide learning experiences not otherwise available even in a face-to-face situation).

* Media and technologies need to be selected so they can best match the required mode of presentation and the dominant structure of the subject matter.

* Media differ in the extent to which they can help to communicate between learners and instructors and also amongst learners.

In 'Review and prospects in using media', presented at the First International Symposium on University Distance Education organised by the University of the Air and the National Institute of Multi Media Education, Japan in 1986, Ding expressed the similar viewpoints:

> In imparting knowledge, especially in training skills and developing intelligence, every medium has its own functions, advantages and shortcomings. Some advantages of a medium may be the shortcomings of another medium. So we must develop what is advantage and discard what is shortcoming in using media.
>
> The advantage and shortcoming of media are relative; there is not a super-medium whose functions are better than all other media. So multi media solution is the best one, we must pay more attention to selection and combination of various media and improve their overall teaching effectiveness.
>
> Ding 1986a: 11

In Design and evaluation of multi-media teaching materials, published in 1989 as Book Two of a training package series, Ding proposed a Diagramatic representation of eight functional dimensions of instructional media with eight implications for media selection and instructional design (Ding et al 1989a, 1989b). All of these and others' efforts have been made to facilitate curriculum and course developments based on a generally accepted assumption of the essential nature of media, that is, media selection and design do influence distance teaching and learning.

It is well known that since the 1970s, correspondence education has been replaced by multi-media delivery which has become the new (second) generation and the mainstream of distance education. However, the majority of the world's distance students still do most of their work through print and correspondence tuition. Bates has analysed this situation clearly:

> At the end of the 1980s, the vast majority of distance education throughout the world was still primarily print-based. Print itself is, of course, a technology, and one subject to considerable technological change. Few institutions rely entirely on print, and several of the more influential institutions made considerable use of other media, such as television and audio. Nevertheless, from a student perspective, the bulk of their studies, and at least their perceived main source of material for assignments and examinations, was the printed word.
>
> Bates 1993: 213

In the new typology developed in this thesis (refer to Section 2.3), this majority is referred to as the AV assistant model (ie. printed materials play the role of primary medium with audio-visual

materials as the assistant media). But there are AV substantial models (ie. both audio-visual materials and printed materials play the role of substantial media), for example, in the United States, China and Japan. So major differences of view and debate relate to audio-visual media with a particular focus on television broadcasting. In other words, there is a continuing debate on the role and the use of audio-visual media, especially television broadcasts. In 1986, Ding made a distinction between British and American models of mediated teaching in distance education:

> Multi media model is a new generation which is the main form of distance universities. Many large-scale distance universities in Asia belong to this model. In practice, this model vary in form. I think that the British Open University and American Stanford Instructional TV System play two typical roles. OU first introduced a lot of broadcast (TV and radio) programs into a distance higher education system. However, if we take a deep observation, it is not hard to find that OU saves the time in using TV broadcast. A full-credit foundation course has only one TV program that lasts 25 minutes each week, so the time of watching TV programs in whole year is less than 14 hours. In corresponding to it, the TV programs of OU are designed of high quality and their production costs are, of course, very high. American Stanford Instructional TV System broadcasts a great number of TV programs by using the specially designed and equipped 'studio-classrooms', its annual transmission time is much more than OU's and its average unit cost is much lower than OU's.
>
> Ding 1986a: 12

Actually, there has been a long tradition of using television broadcasts for educational purposes in the United States. For Harold Wilson, the political founder of the UKOU, the use of the mass television broadcasting for delivery of higher education was an idea mainly obtained from the US. However, W. Perry indicated that educational television broadcasting for distance education was misused and a total failure in the US. It must be noted that this commentary was made in 1993. The fact shows that similar perception on the misuse of educational television broadcasting in the USA is very popular in the British educational community. This of course invites critical reflections from American educators. For example, in many publications, Moore emphasised the 'American way of using television for education', its large scale and its success (eg. 1988, 1995).

In 1993, Bates identified the American model as 'extended classroom teaching'. He explained both the advantages and the disadvantages of this model. Concerning advantages, Bates commented that it requires little change in the behaviour of the teacher; lectures are prepared more or less in the same way as for a classroom. It uses either fixed or single camera operations, and/or specially equipped 'television' classrooms and uses 'narrowcast' transmission services to keep production and transmission costs low. It is particularly useful for bringing in world-wide experts, or to bring latest developments in a particular field to a widespread audience. Also it can be and/or has been used to introduce two-way communications and interactions in distance teaching and learning. Two major criticisms by Bates were: "First, it fails to exploit the unique pedagogic characteristics of each medium; second, it ignores advances in curriculum design associated with the development of integrated, multi-media distance teaching materials" (Bates 1993: 216-7).

In addition to the debate between British and American models of using educational television, there is a general debate on the role and function of mass media, especially television broadcast. From the perspective of using television broadcasts as an instructional medium of distance teaching and learning, its advantages and disadvantages are remarkable. Television broadcast as a mass medium can reach a mass audience which is widespread throughout a nation. Apart from its power and great potential for presentation and/or demonstration of knowledge, television has also proved to be a powerful means for producing a strong motivating influence and for bringing about attitude change. Watching TV programs makes learners feel that they are the members of a supporting organisation. Even the fixed timetable can encourage students to keep to an appropriate pace of learning for regular assignments and for the final examinations. Nevertheless, television broadcasting as a broadcast medium (Daniel) or ether medium (Holmberg) or transient medium (Bates) or instant medium (Ding) etc. is less powerful for achieving detailed and/or deep comprehension of knowledge than more permanent media such as print; and has some disadvantages in its attributes related to access and control. In this respect, it is better to make television programs available as video-cassettes. The longevity and reliability of these personal media (refering to audio-cassettes, video-cassettes and personal computers), and their attributes related to access, control and interaction ensures they will develop rapidly in distance education.

Debate on individualised, home based learning and group based learning in distance education

Indeed, the mainstream conception of distance teaching and learning pays much more emphasis to individualisation and privatisation of distance learning. It is an ideal but it does not reflect the reality of existing systems in the world. In most distance education systems, especially in Western societies, individual home based learning models with non-existing or minimal face-to-face contact are the predominant form, while in some cases, especially in Eastern societies, group based learning models or consultation model with regular and substantial face-to-face sessions seem to predominate. Peters first made his comment on this difference in 1971.

Holmberg has payed much more attention to the use of face-to-face sessions in distance teaching and learning. His main arguments based on many others' research follow:

> A number of studies have shown that cognitive objectives in general and psychomotor objectives aimed at skills in the fields of written achievement (in languages and mathematics, for instance) are attained at least as well by distance study based on the written word as by conventional classes. ...
>
> This, and research indicating that many psychomotor objectives and objectives in the affective domain, ie. attitudes and emotions, are more effectively attained by personal contacts (...) lead many distance-study institutions and their students to make use of face-to-face sessions, when this is possible, for the purposes of:
>
> * practising psychomotor skills in laboratories and under similar conditions; also verbal skills through personal communication;
> * facilitating the understanding of the communication process and human behaviour;
> * encouraging attitudes and habits of relevance for the study;

* mutual inspiration and stimulation of fellow students;
* training in co-operation.

A question that is under debate is to what extent face-to-face sessions should also, more-or-less as a matter of routine, be used for the purpose of securing cognitive learning by discussion and application of the knowledge acquired to themes brought up in direct contact with tutors and fellow students. Whereas one school of thinking finds face-to-face sessions essential, another finds them unnecessary and even, in some cases, harmful. No conclusive proof has been established either to prove the necessity of face-to-face elements or to reject them as conventional embellishments. However, in cases where course completion within a pre-determined period of time is a target, students using supplementary face-to-face sessions have often been found to be particularly successful.

Holmberg 1985a: 62-3

Debate on independence and interaction in distance teaching and learning

In *The Foundations of Distance Education* (1986, 1990a), and putting to one side Peters' theory of industrialisation, Keegan classified other theories of distance education into two groups, the first one is theories of independence and autonomy represented by Delling, Wedemeyer and Moore, the second one is theories of interaction and communication represented by Holmberg, Baath, Sewart, Smith and Daniel.

Willen (1987, 1988) poses a fundamental challenge not only to Moore and other writers in the first group but to all who see distance education as characterised by independence and autonomy. She claims that her research shows that ideas of independence and autonomy are not borne out by reality. In reality, learners vary in the extent to which they are able to exercise independence and autonomy. The key issue is to match teaching-learning program to learners so that each learner exercises the maximum independence and autonomy and grows.

In 1989, Gaskell and Mills contributed an article entitled 'Interaction and independence in distance education - What's been said and what's been done?' in Open Learning. They quoted the Daniel and Marquis' work on the combination of interaction and independence in distance teaching and learning and its significant influence:

Ten years ago Daniel and Marquis (1979) reviewed the work and literature on this theme in their article 'Interaction and independence: getting the mixture right'. They examined the way in which distance learning systems combine those activities in which the student works alone with those which bring him or her into contact with other people. Since then much thought has been given to these concepts and to how systems can be set up within institutions to ensure a healthy mixture for the benefit of the student. Education is an interactive process and distance education provides particular challenges and opportunities for teachers and learners to make the interaction between learner, material, fellow learner and tutor of the highest quality. At the same time one of the aims of higher and adult education is to enable the student to become a more effective independent learner, not just in the sense of studying alone, but in developing greater autonomy and self-direction, calling on an appropriate range of resources as and when necessary.

Gaskell & Mills 1989: 51

Similar ideas with experiences coming from different systems can be found from Smith's paper 'Distance education: the new frontier of learning' (1986):

> Effective distance education demonstrates responsiveness to the needs of individual students and seeks, through a blend of independent study and interactive communication, to develop an interdependent student.
>
> Smith, K. 1986: 1

Concerning interaction and independence in distance teaching and learning, there is another relevant debate on learner-centred or learner-based learning and teacher/institutions-centred or teacher/institutions-based learning. Some distance education systems seem to be teacher/institution centred- or based because they provide pre-produced multi-media packages of course materials which are unified, highly structured and sophisticatedly designed by teachers and/or course teams, set fixed start and finish dates, and also fixed dates for assignment submission and examination and so on (Sewart 1983b, Kember & Murphy 1990). Sewart's conception of continuity of concern for students learning at a distance represents far more emphasis being paid to learner support services, especially to the introduction of human intermediaries.

Section 9.2

Case Study of China: Group Based Learning With Less Open Access and Autonomy for Learners

This section examines distance teaching and learning in China's RTVUs system. In Chapter 4 and 6, China's RTVUs education has been reviewed. Distance teaching and learning in RTVUs system is characterised by its policy shift from quite open at the outset to relatively closed since the mid 1980s, its multi-media teaching model with substantial TV and radio broadcast programs and substantial face-to-face tutorials, its work place and group based learning model with more teaching-learning activities organised in TV classes and less autonomy and control by learners. These distance teaching and learning approaches are quite distinct from the previously described mainstream model. This case study provides further arguments on the following main issues concerning distance teaching and learning and on the relevant debates in policies and practice within China's RTVUs system:

* debate on openness and closure;
* AV substantial model of multi-media teaching mode and relevant debate on educational technology and instructional media; and
* group based learning and relevant debate on independence and interaction

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Debate on openness and closure of RTVUE

Most Chinese distance educators identify openness as the first as well as the most remarkable character of distance education (Ding 1986c, Xu 1990, Wen, F. 1991 and Zhang, H. 1991). The national RTVUs system has been identified as one of the outcomes of new reform and open policies adopted by the Chinese Government since the end of 1970s and Mr. Deng has been recognised as the political founder of that system. In turn, the RTVUE as a distance education system should also be committed to an open policy. The Temporary Regulations of China's Radio and TV Universities, issued by the SEdC in 1988 recognised that "Radio and TV universities are open institutions of higher education which offer distance teaching using multi-media such as radio, TV, printed and audio-visual materials" (CRTVU 1989a: 75). In the first seven years after its foundation (1979-1985), China's RTVUs system was quite open, at least in admission policy and accreditation and awarding systems. The most significant evidence was that the State Council and the Ministry of Education were both encouraging the development of the Free Listener-Viewers (FLVs) and Single Course Students (SCSs) systems (refer to Section 4.3) and the rapid expansion of distance higher education. In fact, the first intake of RTVUs in 1979 included 417 thousand formally registered students. Among them, 115 thousand were FRUs (Formal Registered Undergraduates), while 302 thousand were SCSs. In addition, there were about 100 thousand Trial Students. The number of FLVs was uncountable (CRTVU 1989a: 18). According to the Report on first trace study of graduates for China's RTVUs (Huang and Zhao 1990), of all graduates from RTVUs in 1982, 1983 and 1985 (total number was 321,899), 88.5% were FRUs and SCSs, and 11.5% were FLVs. Among these FLVs, 79% were organised in TV classes, while 21% studied individually at home. In addition, there was a tendency that the percentage of FLVs within total graduates increased remarkably from 1.8% in 1982 to 5.3% in 1983 to 9.3% for science and technology studies and 24.8% for humanities in 1985. The Report showed that the educational quality (either single testing items or comprehensive one) of FLVs was more or less the same as that of FRUs and was satisfactory and accepted by employers (Huang & Zhao 1990: 29-32).

Unfortunately, these successful developments of open policies and systems were interrupted in 1986. Since then, China's RTVUs Education has demonstrated an unexpected shift from openness towards closure. As has been examined in Chapter 4 (Section 4.2) and Chapter 7 (Section 7.2) since 1986, the FLVs system and SCSs system were abolished and the NUEE (National Unified Entrance Examination) and the increasing control and the rigid limitation of annual new entrants were introduced by the SEdC. In addition, many efforts to develop RTVUs education including efforts to provide programs at normal university level by CRTVU and PRTVUs have been refused by the SEdC. As a result, a serious reduction in the numbers of new entrants, graduates and enrolments occurred. The number of new entrants has declined from 273,100 in 1985 to 86,200 in 1991, the number of graduates from 275,000 in 1988 to 122,200 in 1992, and the number of enrolments from 673,600 in 1985 to 282,400 in 1991. This has been identified as a student source crisis in the past decade, and there is a continuing debate on the FLVs system particularly (refer to Ding 1986d, Liu 1986, Xue, T. 1987) and on so-called 'student source crisis' and open or closed policy in China's

RTVUs system in general (refer to Yang & Zhang 1988, Kou 1990b, Zhe 1991, Yunnan RTVU 1991, Zhang & Duan 1992, Qian & Wang 1993).

There are several types of interpretation concerning the student source crisis of RTVUE in the past decade. Some of them have been examined in Chapter 7 (Section 7.2). For example, a number of changes in the nature of the mass market of higher education in China, and the dedicated Fordist mass production model of RTVUE, which was formed at the end of the 1970s and the early 1980s but could not adapt itself to the new conditions of the changing market were two of the interpretation. However, the author of this thesis and many others in RTVUs believe that the main responsibility lies with the policy-decisions of the SEdC, in other words, the policy shift from openness towards closure should be held responsible for the student source crisis of RTVUs Education. The central issue of the debate can be expressed in this way: to what extent does Chinese society and its goal for modernisation needs qualified professional personnel at university level, and at what speed will Chinese higher education, especially adult higher education (including distance higher education) be enabled to develop?

A Report entitled 'China's education facing the 21st century -- state conditions, requirements, planning and policies' submitted by the Educational Planning Office, the SEdC in 1990 (Zhou, B. 1990) was a typical representative work of official policy adopted by the SEdC in the later 1980s. The main criticism on this Report and the official policy represented by the Report from the author of this thesis follow.

* In contrast to public opinion of Chinese educational and intellectual community, the Report stated that China's higher education has over-developed and exceeded the practical needs and absorbent capacity of China's economy, so it should be forced to be cut down. The Report said that according to the report of the World Bank, based on GNP, China was number 8 following the US, Japan, the former USSR, the former Federal Germany, France, Italy and the UK in 1986. However, the enrolments in all regular and adult higher education institutions in 1987 reached 3.817 millions in 1987 and was the third largest in the world following the US and the former USSR but far advanced over Japan (Zhou, B. 1990: 167).

* The Report revealed the basis of an awful policy which discriminates and acts against adult higher education including distance higher education. In examining the development of higher education in the period between 1983 and 1988, it was said that "Adult higher education for short-cycle courses diploma has developed with a great blindness. The enrolments have increased from 0.8 million in 1983 to 1.5 million in 1988, nearly doubled in five years"(Zhou, B. 1990: 167). In examining the prospect development of higher education in the future (1987-2000) the Report expressed its recommendation several times in rigid control of adult higher education, especially at college level, and said that a sharp reduction of it is expected (Zhou, B. 1990: 167-9 and Table 3-36). This discriminatory policy can be seen more clear from the following statistics in Table 9.1.

Table 9.1 A Comparison of the Enrolments Between RHEIs and AHEIs: the Statistics from 1979 to 1993 and the Estimate Figures in 2000 by the SEdC

Year	1979	1983	1985	1987	1989	1993	2000**
RHEIs	1,020	1,207	1,779	2,065	2,183	2,642	2,744
AHEIs	1,722	1,128	1,725	1,858	1,741	1,863	1,344

Source: The statistics of 1979 to 1993 are taken from DPC of ME (1949-1983) and DPC of SEdC (1985, 1987, 1989, 1993). The estimate figures of 2000 are taken from Zhou, B. 1990.

* The Report has also shown its negative attitude against the RTVUs Education in China. The Report argued that radio and TV could not bring about a revolutionary innovation to education. In most cases, audio-visual media are not as important for education and are constantly weaker than printed materials. In addition, national TV broadcasting is high cost. Thus, the conclusion of the Report was that more emphases must be given to the limitation of radio and TV education and avoid blindly developing radio and TV education (Zhou, B. 1990: 212-4).

* The Chinese Government and the CPC have made decisions concerning the development of higher education on a number of occasions, in addition, some Chinese political leaders and many well-known representatives in China's educational and intellectual community (including most distance educators) have expressed their own judgements, all of which are quite distinct from the official viewpoint represented by the SEdC's Report (refer to Qiao 1984, 1985; Ding et al 1984, Ding 1984b, Peng 1989).

For example, in 1986, Li Peng, the Vice-Premier and Minister of the SEdC at that time, once pointed out in his speech: "(We) must make great efforts to develop adult higher education, especially the RTVUs education"; "In Thailand ... they have 200 thousand distant students ... It should not be considered too much to develop the RTVUs' enrolments of total 5 million" (refer to Dong, Z. 1986: 8, Xiao 1989: 6-7). In 1989, before the Standing Committee of the CPC discussed the Decision on Several Issues of Educational Development and Reform, Mr. Deng Xiaoping had made his comments on it: "Our development in the recent 10 years is very good. The most serious mistake of our work is in educational aspect, political thinking work has been weakened, and the development of education is not sufficient" (Deng 1989). Unfortunately, these requests from either top leaders or public opinions were rejected by the Report (Zhou, B. 1990: 214-5). Nevertheless, There is still a strong voice requesting a more significant development of education coming from the educational and intellectual community. In 1991, Peng published a paper entitled 'How can education go beyond the dilemma in the case of educational investment having no remarkable increase?' (Peng 1991). In 1995, Qian Weichang, a famous intellectual in China, appealed again about the backward status of education and several urgent issues need to be solved. He said: "Please ask yourself: in today's world, is there any country with developed economy and advanced industry and agriculture but undeveloped education and backward culture? In addition, is there any country with backward

economy and underdeveloped industry and agriculture but developed education and advanced culture? It is hard to find out a single example" (Qian 1995).

* The author of this thesis believes that the debate on the open policy of China's RTVUs Education, or more generally, on the development of adult higher education in China is deeply rooted in educational philosophy. In China, before the end of the 1970s, education has been treated as the tool of class struggle, that is, education including higher education should serve proletarian politics. Since the end of the 1970s, economic construction, which is characterised as 'Four Modernisations - modernisations in industry, agriculture, national defence, and science and technology' has become the centre of the Chinese Government and the CPC. Economic instrumentalism, instead of the political commitment, has been placed at the centre of policy-making for education, including distance higher education. The liberal functions of education, in other words, education in its own right and its significant role and functions in modernisation of a society has not been recognised sufficiently.

* The official policy of the SEdC represented by the Report in the 1980s also reflect that it was still an outcome of the framework of the old style planned economy. The main goal of Chinese economic reform is a strategic shift from a planned economy to a market economy. It seems that educational reform and development cannot catch up with the progress of economic reform which is far beyond overall socio-economic change. Some policy-makers in the SEdC still stick to the framework of the planned economy and planned education: a few policy-makers at the central level make major decision on future development nationwide, then all educational institutions will develop in accordance with this central plan and their quotas in it. The market mechanism and its function of adjustment have been accepted and applicable to Chinese economic enterprises, but obviously not to educational institutions as yet.

* The last but by no means the least important problem is that some policy-makers stick to the traditional philosophy of face-to-face education and are sceptical about the development of distance teaching-learning and the application of modern information technology and media in education. Ironically, they acknowledge that distance education is good and successful in Thailand and Australia, but they are still sceptical about the quality and cost-effectiveness of China's RTVUs Education (Zhou, B. 1990: 212-3).

Nevertheless, after Mr. Deng gave his important speech on developing and deepening the socic-economic reform and open policy in South China at the beginning of 1992, the First National Working Conference on Adult Higher Education held in August 1992 formulated a new blue print for the development of China's adult higher education. At the Conference, participants challenged sharply the traditional administrative system and policy of adult higher education, which was accused being over-centralised and unified. Such an out-dated administrative system and policy was the outcome of the planned economy system of the past (refer to Li 1992, Zhu 1992). Some participants

asked the SEdC to free the control over diplomas and to give autonomy to institutions. The Conference concluded that in the past 14 years (1979-1992) the development of adult higher education has been a great achievement and made a great contribution to socio-economic construction, and that further development is needed. Several new policies have been formulated. These policies include: the restoration of the organised FLV system, the provision of normal university level studies for graduates of short-cycle courses, the offering of fundamental course studies at college level for RHEIs and so on. However, ironically, the Conference decided to adopt a rigid control system of issuing all kinds of diploma and degree for AHEIs by the SEdC (refer to SEdC 1993). The debates over the openness of RTVUE have been continuing in the mid 1990s. According to "the Opinions for Carrying Out the Development Outlines of Chinese Education in RTVUs" (SEdC 1995), the goal for RTVUE in the early 21st century is to build up China's open university of modern distance education with Chinese characteristics. The Opinions decided that RTVUE should be innovative towards more open and to realise educational modernisation increasingly. Based on the Opinions, SEdC approved RTVUs to carry out two projects of innovation: Registered Listener-Viewer system (similar to the FLV system) and the provision of normal university level studies for graduates of short-cycle courses. In the National Working Meeting of China's RTVUE held in Huangshan in 1996, grounded in the Opinions issued by SEdC, China's RTVUs system built up a series of guidelines, strategies, policies and measurements for its reform and development in the future (CRTVU 1996). Since then, China's RTVUE has entered a new period of development. The students numbers for diploma education in RTVUs in the mid 1990s have resumed its historical top record in the mid 1980s (refer to Section 7.2, Fig. 7.1 - 7.4).

In short, concerning openness, China's RTVUs Education is a form of higher education which is relatively open in comparison with China's regular higher education and other campus based adult higher education. But it is quite closed when compared with its counterparts in the international family of distance higher education. In addition, there are many debates on the openness of RTVUE in either policy or practice. There is still a long way to go for RTVUE to reach its goal of the openness.

Characteristics of mediated instructional model in RTVUs system

China's RTVUs education is a national system of distance multi-media teaching with substantial mass radio and TV broadcasts and substantial face-to-face sessions. Chinese experiences in RTVUs education have shown that no matter how advanced the modern information technology and its hardware applied in education are, the achievements of distance teaching and learning depend mainly on the educational quality and effectiveness of instructional software, ie. the multi-media course materials. There are mainly four kinds of media used in distance teaching system of RTVUs: printed materials, radio and TV broadcast programs and/or audio-visual materials, face-to-face sessions, and laboratory and other practical work.

Printed materials in multi-media teaching system

The printed materials used in RTVUs system can be divided into three categories: main textbooks which contain all of the contents of the subject matter; study guides and other set books which provide learning strategy guidance, instructional tuition and designed reading materials for extensive and in-depth study; and other supplementary printed materials such as teaching syllabi, teaching timetables, subject review-materials issued at the end of each semester, various types of learning assistance and reference materials published in specifically designed newspapers, periodicals and booklets and distributed within RTVUs system. The main textbooks are usually written by well-known professors or other specialists in the subjects. They can be chosen from the standard textbooks used in RHEIs nationwide, or rewritten and newly written. This is the priority of RTVUs education acknowledged by Chinese society because RTVUs employ the best teachers and uses the best textbooks in China. Almost all of the study guides, set books and other supplementary materials are written and/or compiled by the academic staff of RTVUs at various levels. This arrangement is intended to achieve the high standard of subject content and the required characteristics for distance teaching and learning (refer to Zhong 1990, Zhu 1992). However, there are still many problems concerning printed materials used in RTVUs education.

* The idea of identifying printed materials as the main and/or leading medium in multi-media teaching of RTVUs education has not been generally accepted and is still in debate. The insufficiency of reading the main textbooks by students of RTVUs reflects the seriousness of this problem.
* Most main textbooks of RTVUs are similar to standard textbooks used in RHEIs. They are difficult for independent study by students at home.
* Many main textbooks of RTVUs are not very suitable for short-cycle course programs which are focusing on training professional personnel in applied areas at college level.
* For many years, it was not guaranteed that all students in RTVUs system would receive the main textbooks and set books on-time.

Audio-visual materials in multi-media teaching system

Audio-visual materials play an important role in distance teaching and learning of RTVUs education. There are two main categories of audio-visual materials: radio and TV broadcast programs, and audio-cassettes and video-cassettes. CRTVU and regional RTVUs involved well known professors and specialists in subjects nationwide as lecturers and/or presenters in its radio and TV programs and other audio-visual materials. In this way, mass broadcasting is able to transmit the lectures of an authoritative professor to tens of thousands of students around China. The high academic standards of radio and TV teaching programs used in RTVUs system have been acknowledged by the educational community and the society more broadly. According to a criterion of 'providing courses at various levels', RTVUs system has several delivery methods for its audio-visual materials: most national unified TV programs provided by CRTVU are transmitted through CCTV and CETV; all radio and some TV programs offered by CRTVU, and various radio and TV

programs are provided by regional RTVUs through regional networks; and some audio-visual course materials are delivered to TV classes directly in the form of audio and video cassettes.

The main characteristics and problems in using audio-visual materials in RTVUs system are as follows:

* Mass broadcasting is still a significant instructional medium for RTVUs education.
* In the past 15 years, a great effort has been made to improve the instructional and technological design and development levels and to enhance the quality and effectiveness of audio-visual materials in both areas of theoretical research and practical exploration, and there has been remarkable progress in this area. However, overall, a number of the audio-visual materials used in RTVUs education are still at the embryonic stage of instructional design and technological development.
* The average recipient ratio (ARR: the percentage of TV program audience over total enrolments in a certain subject) has decreased significantly in the past 15 years.

Mediated instructional model in RTVUs education

One of the key issues of distance teaching and learning in RTVUs education is the relationship between printed materials and audio-visual materials.

* Is there only one so-called main (or leading) medium in a multi-media teaching system? Particularly, in China's RTVUs system, could the printed and audio-visual materials be both main media for distance teaching and learning? This has been a long-lasting question since the establishment of RTVUs system.
* How to approach the relationship between printed and audio-visual materials in instructional design and course development is another fundamental problem in RTVUs system.
* In relation to audio-visual materials, there is on going debate on the merits of using broadcasts and/or cassettes and debate on the British and American models of using TV programs. From a conceptual perspective, most academics of China's RTVUs recognise the pedagogical and technological advantages of the UKOU model in use of audio-visual materials. However, in practice, a great number of TV programs are produced in the form of the on-campus lecture and transmitted to TV classes, which seems more close to the American model in the use of educational TV broadcasting but without two-way communication between lecturer and students. The reasons for this paradox are quite complex, for example: there are too many class hours of TV program for each subject, and at the same time there is insufficient investment, facility, preparation time, and expertise to produce sophisticated TV programs like those in the UKOU. Most presenters of TV programs produced in RTVUs are chosen from RHEIs. They have rich experiences in on-campus lecturing but have no expertise in distance teaching.

Group based learning environment and strategy

In the RTVUs system, students may choose to study full-time, part-time or spare-time. The TV class is a fundamental structure of China's RTVUs education. That is, most students are organised into TV classes in their working units. In this thesis this is referred to as the group and work place based model of student learning .

To arrange face-to-face teaching sessions is the most important function of TV classes. Most face-to-face sessions are tutorials. In China's RTVUs system, there are only a few correspondence and telephone tutorials. Most students take part in face-to-face tutorials which have several basic teaching functions: (1) to provide tuition assistance and supplementary lectures or seminars, (2) to provide guidance in learning strategies and methods, (3) to answer students' questions about the subject matter and to provide help in solving problems, (4) to mark and comment upon students' assignments, (5) to organise regular assessments and to monitor the learning progress, (6) to organise systematic review for preparing examinations at the end of each semester, (7) to be a bridge between students and RTVUs in communicating teaching and learning information. The class hours of tutorials for each subject vary and in most cases, are about half of the class hours of TV programs for the same subject. The tutors are drawn from full-time academics of RTVUs at various levels or from other higher educational and professional institutions. National RTVUs system employs more than 10 thousand part-time tutors each year. For many years, there have been several major problems in face-to-face tutorials: (1) the class hours of tutorial for each subject have been too many and there is still a trend of increasing tuition hours, consequently costs have also increased, (2) in some cases, tutorials have been replaced by lectures, ... (5) some tutors have not made sufficient effort in marking and commenting upon students' assignments and assessments and in their guidance of students' learning strategies and methods (Ding et al 1988b, Ding 1990a; Wang, Z. 1987).

RTVUs pay special efforts to the organisation of laboratory and other practical work in TV classes. According to RTVUs' educational program and syllabus, laboratory work is a necessary component of distance teaching and learning for students studying science and engineering. TV classes organise students to conduct laboratory work in three ways: (1) complete experiments in laboratory bases established by various levels of RTVUs (eg. PRTVUs, branch schools or work stations), (2) complete experiments in laboratories of appointed RHEIs, research institutes or other professional institutions, (3) complete experiments by using experimental kits in TV classes. There are experimental tutors from RTVUs or other institutions who supervise students' laboratory work and mark and comment upon their experimental reports. In addition there are several other forms of practical work required by the various educational programs and syllabi in RTVUs system. Productive exercise in industry or field study and course design projects are required for students studying science and engineering. Teaching practice in schools is required for teacher training courses and social investigation is required for students studying humanities, social science, economics and management. Students studying science and engineering courses for three year diploma are also required to complete a graduate thesis. For other types of students, a graduate

design or a graduate assignment project is required. All of this practical work is planned to increase students' practical and independent working ability and their capacity to apply knowledge and skills which they have learnt from their courses to solve practical problems or tasks in economic production or social life. There are a number of problems in organising practical works in RTVUs system. The teaching quality of laboratory work is unbalanced across various RTVUs and their TV classes and it lacks an adequate quality control system. In some TV classes, there is a deviation from pursuing the number of organising practical work projects and insufficient effort to increase the teaching quality and real effectiveness of practical work (Ding et al 1988b, Ding 1990a; Shan & Pen 1987; Zhang, X 1990, Ma & Liu 1990).

Due to the group based learning model, compulsory pacing is a key feature of distance teaching and learning in RTVUs system, and most students have less independence, autonomy and control over their learning activities. However, there are some students in most TV classes who do not attend the TV classes very often. They prefer to study independently using printed materials and other audio-visual materials at their homes. In addition, a proportion of FLVs study independently at home and are not organised in TV classes. There is a debate about TV class based learning model. Some people propose that RTVUs should encourage individual study at home in part- or spare-time, and the organisation of TV classes should not be a prerequisite for the running of RTVUs education. However, most people in RTVUs system still think that TV class based learning organised in working places has many advantages in the Chinese context: group based learning guarantees a high success rate in the completion of courses and high graduation rates, so it is educationally efficient and cost-effectiveness; group based learning matches traditional Chinese pedagogy of most academics and the learning patterns, strategies and skills of most students; group based learning at the work place can achieve professional, vocational, social and cultural functions in conjunction with distance teaching-learning processes and may strengthen students' motivation, interaction and communication.

Conclusive comment: A basic contradiction

Chinese distance educators identify face-to-face sessions as one of the educational media, thus the characteristics of distance multi-media teaching and learning in RTVUs system can be summarised as follows:

* courses are developed by CRTVU and regional RTVUs and multi-media course materials are delivered through various channels and methods to TV classes and individual students;
* mass broadcasts (both TV and radio through national and regional networks) and other audio-visual materials are used on a large scale from both macro (total transmission hours) and micro (class hours for each subject and every student) perspectives;
* instructional design and technological development of audio-visual programs is still at a low level, ie. closer to the American model than the UKOU model of using TV programs;

* printed materials are not yet very suitable for distance teaching and open learning, the conception of printed materials as the main and leading instructional medium has not yet been established in practice;
* there are too many class hours of face-to-face sessions and some tutorials have become lectures, there is increasing dependence of some students on the face-to-face sessions and the pre-examination systematic review and less independence and autonomy in their learning;
* group and work place based learning becomes an essential feature and there are too many compulsory and unified teaching-learning activities organised in TV classes.

The summary and the examination of distance teaching and learning of the RTVUs system in this section shows that there is a basic contradiction between theory and practice. From the conceptual perspective of most Chinese distance educators, distance teaching and learning is quite distinct from conventional on-campus teaching and learning. This is mainly because of the distinction between conventional and distance education in three aspects: (1) the nature of education, ie. pre-job education via post-job or in-service education and training; (2) the learner body, ie. elite young school leavers versus employed adults with different levels of commitment and different psychological characteristics; (3) the means and methods, closed, on-campus face-to-face teaching-learning and traditional pedagogy versus open, flexible, dispersed and mediated teaching-learning at a distance and a new pedagogy. From these essential assumptions, most Chinese distance educators accept the ideas that: printed materials should be the main instructional medium and suitable for independent study and open learning, TV programs should be designed and produced more sophisticatedly and become the assistant medium, class hours of face-to-face sessions should be reduced and learner-centred and independent study should be encouraged, and so on. In a sense, such a conception is close to mainstream theorising of distance teaching and learning. However, in practice, RTVUs' multi-media teaching model with its substantial volume of audio-visual programs and its substantial emphasis upon group based face-to-face sessions is far apart from the mainstream model, and ironically, it is easy to find out the significant influences from conventional on-campus education and traditional pedagogy. This contradiction or paradox can be discerned from the national character of Chinese education and society. Following are only a few arguments about this interpretation (refer to Ding 1986a, 1990a).

* China has a highly concentrated political system with the Central Government having high authority. This has guaranteed the running of a large scale delivery system and the payment of annual delivery expenditure for its application in various educational contexts including RTVUs education.
* The current teaching and learning model adopted by RTVUs is a feasible way to mobilise all social departments and grass-roots working units in developing distance higher education by organising and supporting TV classes for their employees in-service training.
* The adoption of standard textbooks and TV programs similar to on-campus lecturing has several practical advantages: it utilises the existing resources, facilities and professional personnel in RHEIs and saves a great amount of investment, equipment and materials, and preparation time; it is easily

accepted by the educational community and society; and it is easy to fit in with learners' learning customs and psychological features.

* There are several reasons for maintaining the entrance examinations and running full-time TV classes in RTVUs system. In contrast to most Western developed countries where compulsory education has included complete secondary education. In China, compulsory education lasts nine years only (excluding three-year senior secondary education) and has not been realised yet in most parts of the country. From a Chinese perspective, there should be some kinds of educational prerequisite for any higher education program with a certain level of qualification, otherwise it would be very difficult to organise teaching and learning. Moreover, before 1995, China had a working system in which people work six days per week and there are only seven public holidays each year. For most Chinese families, both parents have to work to support their family and they have a lot of housework to do during every Sunday and public holidays. So it would be extremely hard to study part-time or spare-time if they were not organised in TV classes and supported by their working units.

* Class based learning, substantial face-to-face sessions and the organisation of pre-examination systematic review are all similar to conventional on-campus teaching-learning practices. It is an important teaching-learning element in RTVUs to supplement printed and audio-visual teaching materials, especially where these course materials have not yet been sufficiently developed as distance teaching and open learning resources. On the other hand, various departments and grass-roots working units would like to organise TV classes because it can guarantee high success rates for their employees and hence high cost-effectiveness of their investment.

Nevertheless, there are serious disadvantages in the current teaching and learning model of RTVUs from an educational or a pedagogical perspective (refer to Xie & Li 1990b, Han 1996, Shan 1996, Zhou, X. 1996). Some of them have been examined above. The most serious one is that there is a vicious circle in current distance teaching and learning model which has bothered RTVUs education for many years and has not been solved yet. Ding identified this vicious circle as follows:

> Since the idea of printed materials as the main and leading (centred) instructional medium has not been firmly established in conception and has not been realised in practice, RTVUs' distance teaching and learning has shifted from no centred medium to multi-centred media. First, due to the insufficiency and inefficiency in independent study on printed materials, students turn their efforts to audio-visual programs. Secondly, the instructional effects and technological quality of some audio-visual programs are not as good and satisfactory as expected, they turn their hope to face-to-face tutorials. Third, in some cases, face-to-face tutorials are not very helpful in solving their learning questions and problems, students turn their final wishes to pre-examination intensive review session and looking for examination message and preparative materials.
>
> Ding 1990a: 218

How can RTVUs education solve this vicious circle in particular and improve its multi-media teaching-learning in general? There are many valuable theoretical recommendation and practical exploration. Following are several important recommendations of Ding in 1990 (Ding 1990a).

* Printed materials should be firmly treated as the sole central medium and improvements in the instructional design of printed materials has to be a top priority.
* Mass broadcasts and other audio-visual materials should be maintained and their special instructional functions must be brought into a full play. The transmission hours for each subject need to be reduced and their pedagogical design and technological quality need to be improved.
* When educational quality and effectiveness of both printed and audio-visual materials have been significantly improved, the class hours of face-to-face sessions can be reduced. In RTVUs system, three types of registered status in full-time, part-time and spare-time studies and both models of group based learning and individual home based learning should all be permitted and developed. They vary depending on specific conditions and particular contexts. Nevertheless, in any case, a proper balance between independent study of printed and audio-visual materials and group based learning and interaction should be made (refer to Sheng & Yang 1987, Tan 1988, and Zhang, J. 1993, 1994).
* RTVUs have to make a greater effort in the integrated development of curriculum and courses and in the integrated pedagogical and technological design of multi-media course materials.
* Distance teaching and learning in the RTVUs system needs to develop more open learning policies and to use more advanced educational technology and media which have more effective functions in interaction and two-way communication.

Section 9.3

Case Study of Australia: Individual Home Based Learning With More Open Access and Autonomy for Learners

This section examines distance teaching and learning in Australia's distance higher education. In Chapter 5 and 6, Australia's external studies and open learning has been reviewed. It has been identified that distance teaching and learning in Australia is characterised by a policy focusing on openness and equity of accessing higher education, its continuous development of using three generations of educational technology and instructional media, its individual home based learning model with emphasis on more flexibility, accessibility, interactions and learners' control over their learning process. These distance teaching and learning models and their characteristics are quite distinctive from China's RTVUs Education. The Australian integrated dual model is also quite distinctive from the mainstream model of distance teaching and learning. This case study provides further arguments grounded in Australian experiences and perspectives. It will examine the following main issues and the relevant debates in policies and practice:

* open access: from external studies to open learning;
* a continuous development in the use of educational technology and instructional media; and
* individual home-based learning: from compulsory on-campus requirements in external study to open and flexible learning.

Open access: from external studies to open learning initiatives

In addition to growth, quality, efficiency and effectiveness in higher education, the equity of accessing higher education for all people, especially for under-represented groups is a persistently pursued target by the Australian Government over the whole of the twentieth century. It is a long story of open access policy being approached gradually from the external studies phase to more recent open learning initiatives.

It is well known now that since the 1990s, Australia's Government has committed itself to innovating a more open and flexible system of higher education. Patterns of participation in various modes of higher education are changing markedly. In the past decade the number of higher education students studying externally grew from 45,600 in 1985 to about 74,000 in 1995 (63.8% increase). Associated with this shift is a major increase in the proportion of students studying part-time and an emerging trend for students to choose to study through a mixed mode of on-campus and off-campus studies. The various open learning initiatives are part of the response to these changes in demand.

A continuing development in use of educational technology and instructional media

In short, mass broadcast media play a unique role in OLI and in distance higher education generally, but more rapid increases will occur in the third generation of media represented by computing and telecommunication technologies which have more attractive features: flexibility, interaction and controllability. The Australian Government is committed to fostering the use of this new generation of technologies, and makes funds available for the development of alternative delivery approaches at both national and institutional levels. The evaluation of the pilot Open Net project funded by the Commonwealth demonstrated the benefits of computer mediated communication for both students and staff. The first OL units were accessible on-line in March 1996 (Atkinson, E. et al 1996: 103). A list of projects funded through the National Priority (Reserve) Fund in 1990, 1991 and 1992 taken from the National Report on Australia's Higher Education Sector (1993) demonstrates the development clearly:

* Computerised Field Education (Charles Sturt University)
* Distance Education Study Materials on CD ROM (Monash University)
* Trial of Optel Telewriter system/video (University of Southern Queensland)
* Educational provision to remote campuses (Curtin University of Technology/Edith Cowan University)
* Surrogate laboratory interactive video (Curtin University of Technology)
* Resource-based teaching packages for Open Learning (University of New England)
* Quality enhancement through multimedia and computer assisted learning (University of Wollongong)

* Using information technology in course delivery (Deakin University)
* The application of computer based and multimedia technologies to improve the quality of teaching and learning (Curtin University of Technology)
* Open Learning for rural, remote and disadvantaged students through multimedia packages (Edith Cowan University)
* Learning materials for Vietnamese language teaching (Victoria University of Technology)
* Interactive Videodisc System - Japanese 1 (Western Australian Distance Education Consortium / Murdoch University)
* Communication links and videoconferencing facilities in a number of universities. These developments benefit both on-campus and external students.

HED of DEET 1993a: 181-2

The computing and telecommunication technologies provide a variety of flexible ways for delivering higher education other than through print and broadcast radio and television, and enable individual learners to have greater interactivity and control over their own learning and to be less dependent on teacher's and/or institutional arrangements. As a nation Australia has a ready capacity to take-up the new generation of technologies. As at September 1995, personal computer ownership in Australia had increased to 46% of all households and is expected to rise to two-thirds of all homes within two years. CD-ROMs were to be found in 15% of homes, compared with only 9% in February 1995. Within two years widespread modem ownership and extensive Internet usage is also anticipated (Atkinson, E. et al 1996: 103). What Australian educators need to do is to determine how to incorporate new technologies into educational system and teaching-learning process so that Daniel's so-called 'constraints of eternal triangle of access, quality and resources' could be broken out of and provision significantly improved.

Individual home-based learning: from compulsory on-campus requirements in external study to open and flexible learning

The Open Learning Initiative has achieved a great deal in the provision of open and flexible learning. No on-campus attendance is required in the OLI system. In short, in the recent decade, openness and flexibility, learner-centred teaching-learning, independence, autonomy and control over learning by learners combined with more interactions and two-way communications are pursued goals not only by external studies and open learning initiatives, but also by the whole of the Australian higher education sector.

Concluding comment: Australian integrated pedagogy

From the second half of the 1980s to the early 1990s, whilst the Commonwealth planned and carried out the radical reform of external studies based on principles of concentration and rationalisation, many Australian authors such as Kelly (1987), Campion and Kelly (1988), Kennedy (1990) and Campion and Guiton (1991) pointed out that there will be a high cost for this radical reform. That is, the Commonwealth policy on distance higher education in the 1980s retained a rigid distinction between campus-based and distance education: a distinction which according to these authors is to the detriment of both teaching modes. They argued that such a policy may maintain the

myth of integration of external and internal studies, but deny its promise, a promise which has greater potential in Australia. Given the absence of a single national provider of distance education, the potential inherent in Australia's integrated system is to provide open and flexible access to and to enhance the quality of overall higher education (Kelly 1987 and Campion and Kelly 1988). The following remarks are taken from the article written by Campion and Guiton in 1991 which displays the same viewpoint:

> Kennedy's closer look reveals that "There has never been [in Australia] a clear cut distinction between distance education and campus based education" (Kennedy 1990: 4). Indeed he argues that the distinction will become rather more blurred. The point is that the government's distance education policy relies upon increased concentration of resources for course development and external student enrolments within a limited sub-set of Australian higher education institutions. This approach has continued to assume a clear distinction between 'external' and 'internal' as two separate student populations with this serious over simplification being encouraged by a statistical reporting system which has failed to recognise the increasing importance of 'mixed mode' enrolments. In the current integrated system students can mix study modes to suit their circumstances. They can study units 'on' and 'off' campus concurrently or consequently. This mixed mode has provided a degree of student managed flexibility and openness which would be made more difficult by rationalisation and which is paradoxically much less readily available to students enrolled in a conventional Open University.
>
> Campion & Guiton 1991: 17

Since the 1990s, the Commonwealth's policy on distance higher education has reverted to supporting Australia's integrated system of higher education and to developing an integrated pedagogy in Australia. Following statement is taken from the National Report on Australian Higher Education Sector in 1993:

> Clearly, ... many of the modes of delivery used in external studies are also applicable in on-campus studies, and the use of similar technology in teaching on-campus raises the question, whether and for how long it makes sense to distinguish between internal and external modes of delivery.
>
> HED of DEET 1993a: 181

The Report also indicated that "In many universities advanced technology is making inroads into traditional teaching", and "These developments [of educational technology] benefit both on-campus and external students" (HED of DEET 1993a: 182).

In the Report of the Project to Investigate Quality and Standards in Distance Education, Nunan and Calvert expressed this shift from a few DECs to open learning and an integrated and flexible system of overall higher education in policy and philosophy clearly:

> At the level of methodologies for teaching and learning, open learning is an attempt to apply whatever technology and technique is thought appropriate to providing the learner with access and flexibility. These may involve a number of variables, including time, location, pace and choice of assessment in the course of study. The conventional dichotomy between face-to-face

and distance mode thus is rendered irrelevant. Both the underlying philosophy of 'openness' and the ways that technology can be used in educational settings have resulted in calls for recognition of a range of alternatives beyond internal or external mode.

... Cross fertilisation between approaches should widen the range of instructional technique and delivery processes. Thus, face-to-face teaching will be changed by the employment of techniques of teaching at a distance; teaching at a distance may, through technology, address groups at a 'local' centre, thereby supplementing approaches which, through course materials, address individual learners.

Thus these are strong arguments which:

* challenge the distinctiveness of education at a distance, and consequently,
* challenge the need for consideration of distance education as a special category for policy development;
* support the need to explore the benefits available to the institution and student if there were greater use of mixed or alternative mode delivery of courses.

Nunan & Calvert 1992: 25

Integration thus appears to be becoming a national system-wide feature rather than a local feature of Australian higher education.

Summary: the Debate on the Essential Nature of Distance Teaching and Learning

This chapter has reviewed many debates on distance teaching and learning in theory and practice worldwide, especially in the mainstream conception of theorising distance teaching and learning. Distance teaching and learning in the Australia and China systems have been examined as have their implications relating to these debates. It is generally accepted that distance education by its very nature is highly positive to open learning and there is still a much space for it to be improved in respect of its openness, flexibility and learner-centred strategies. This is especially true in the case of China where the Government's policy of reverting from openness to closure is one of the strongest concerns of the RTVUs educators, while in Australia the policy shift towards more open and flexible learning has become a priority in the national agenda of developing distance higher education in the 1990s. The Study shows that those debates concerning educational technology and mediated teaching have considerable implications for both systems. In the case of China, correspondence higher education remains a typical representative of first generation of technology and mediated teaching, and RTVUE represents a typical second generation, the multi-media teaching model with substantial mass broadcasts and other audio-visual media involved. In Australia, the three generations of educational technology and instructional media are all developed and maintained cooperatively in the national system and there is a greater variation across individual providers. In relation to the learning environment and learning strategy, Australian and Chinese DHE systems are very diferent. For China's RTVUE and CHE, most students are organised in groups (TV classes and correspondence classes) at their working units. There are substantial face-to-face sessions in the form of tutorials, group discussions and lectures, and a high level of unification, concentration and rationalisation in teaching-learning process with compulsory pacing. In Australia, though there are

some on-campus residential or other group based requirements for external studies, the dominant pattern is individual home based learning with less (for external study courses in some dual mode institutions) or non-existing (for OLI such as the OLA) face-to-face sessions. Students study using self-containing learning package independently at home and have a plenty of options to interact and communicate with the supporting institution through various media: correspondence, telephone, group based activity, telecommunications and computer based technology. The study in this chapter has mainly been a contribution to the exploration of endogenous and exogenous reasons for the very different contours of distance teaching and learning between Australian and Chinese systems. In other words, those educational, socio-economic, political and cultural relationships and interactions have been investigated and revealed to interpret different characteristics and models of distance teaching and learning in various aspects in both countries.

In addition to this interpretation using endogenous links within the system and exogenous links between the system and society, the author of this thesis believes that there is an essential explanation in philosophical thinking. That is, the debates on three sets of critical issues and the distinctive features of both systems in Australia and China in these dimensions examined in Chapters 7, 8 and 9 are all related with each other and can be synthesised into an ultimate debate: the essential nature of distance teaching and learning.

In the past decade, Holmberg has developed a proposition on two schools of thought or two different philosophies in distance education. Holmberg's main viewpoint is that there are two opposite, general approaches of distance teaching and learning in the practice: the large-scale approach and the small-scale approach. The two approaches represent two different philosophies of distance education, or two schools of thought on distance teaching and learning. The large-scale approach, typically represented by the UK Open University and the German FernUniversitat, regards distance education as a revolutionary innovation and as the most industrialised form which is separate from conventional education. It has been treated as the mainstream in this thesis. The small-scale approach, typically represented by the dual-mode provision in Australia, Sweden and many other countries, identifies itself as an extended, integrated and inseparable part of conventional education (Holmberg 1985a: 8-11, 1995: 6-7). Some other authors have expressed the similar views. Among them, Dahllof's two principal models of distance-teaching at university level (1977, 1984) and Willen's two basic pedagogics (1988: 76-9).

As reviewed in this thesis, the author of this thesis believes that there are three elementary schools of thought (or three different philosophies) differing in identifying the essential nature of distance teaching and learning from practice to theory. The first school of philosophy differentiates distance education from conventional education as a revolutionary form and places emphasis upon diversity, pluralism and collaboration. Second school of philosophy tries to abolish the dichotomy between distance and conventional education and to emphasise integration, convergence and unification. The third one proposes an educational continuum and emphasises eclecticism,

compromise and synthesis not only between distance and conventional education, but also between the first and second philosophies.

Distance education: A revolutionary concept

The people of the first school of philosophy declare that distance teaching and learning has an unique nature mainly derived from the quasi separation between teacher/teaching and learner/learning. They argue that based on the development of educational technologies and instructional media, pre-produced multi-media course materials and various kinds of learning support services can be used in delivering distance teaching and learning to a great number of learners who are widespread and diversified. They propose that the quality and cost-effectiveness of distance education has been or can be achieved and that parity between distance and conventional education will be reached eventually. The author of this thesis believes that this school of philosophy has the most believers and followers, especially in the UK, Germany, and other western European countries, and many former Commonwealth countries. The majority of distance educators and researchers, most educational technologists and some politicians are under its banner. Among them, Wedemeyer, Peters, Holmberg, Keegan and many others are only a few representatives whose works have been quoted in this thesis. A statement taken from Peters' article 'Distance Education: A Revolutionary Concept' written in 1993 can be seen as the creed on this school's banner:

> Why is this particular development remarkable and significant? Because there is more to it than just the extension of teaching and learning to more people. It indicates the advent of a new concept of teaching and learning which differs from the traditional ones in so many ways and brings about so many changes that it seems to be justified to call it "revolutionary". ...
> Distance education is, indeed, an approach to learning which is in many ways different from face-to-face teaching. These differences are not merely coincidental but structural. They can be identified in the conceptionalising, planning, designing, delivering and evaluating of instruction and especially in the interaction of teacher and learner, in fact, in the whole teaching-learning process.
>
> Peters 1993a: 29

This school of philosophy is treated as the mainstream theory of distance education in this thesis. It has been examined intensively in Chapter 3 and most of the debates reviewed in Section 7.1, 8.1 and 9.1 concern the dispute between this and other philosophies.

Distance and conventional education: from dichotomy to integration

The people of the second school of philosophy declare that distance teaching and learning has the same nature as conventional on-campus education. They argue that the issues of distance teaching and learning should be addressed in the universal conception of educational sciences. They propose that proximity to and integration with conventional on-campus education is the ultimate promise and ideal for distance teaching and learning. They predict that from correspondence education to distance education and open learning, the future option for open and distance education is the integration, convergence and reunification with conventional on-campus education. The author

of this thesis believes that this school of philosophy has a number of believers and followers, especially in Australia, Sweden, the USA, China, and the former USSR and central and eastern European countries. Among them, Willen, Smith, Kelly, Campion, Guiton, Renner, King and many others are only a few representatives whose works have been quoted in this thesis. A declaration of 'Mixing distance and face-to-face higher education' coming from the UK can be seen as a signal of the significant influence of this philosophy:

> At present, however, a whole series of related factors - the changing demographic pattern, the decline in overall levels of funding for higher education, increased competition between and within institutions for students and funds, and the particular attention being given to continuing education and information technology - suggest that the time may be ripe for significant changes in higher education practices and, in particular, for the breaking down of the false dichotomy which exists between face-to-face and distance forms of provision. In this paper I shall explore the possibility and desirability of developing 'mixed' higher education courses, which would combine distance and face-to-face elements on a flexible and pragmatic basis.
>
> Tight 1987: 14

This philosophy of distance teaching and learning has been examined in Chapter 5 and the Case Study of Australia in all three chapters (7, 8 and 9).

Towards synthesis: An educational continuum

The people of the third school of philosophy propose various types of educational continuum. They declare that distance and conventional education both fall somewhere between the two ends of the educational continuum. They argue that characteristics and models of a particular distance education system are determined by a number of specific elements ranging from national character to varying circumstances of its student bodies. They suggest that the approaches of distance teaching and learning should vary in accordance with these different characteristics and circumstances. They propose that the rigorous distinction between distance and conventional education and also between different models of distance education are unreasonable in theory and harmful in practice. They stress that both distance and conventional education are changing constantly along with social changes and technological innovations, and there are increasing challenges for competition and collaboration. The author of this thesis believes that this school of philosophy has an increasing number of believers and followers everywhere in the world. Among them, Sewart, Lewis, Rumble, Mugridge and many others are only a few representatives whose works have been quoted in this thesis. For instance, Sewart proposed a spectrum between two extremes, from the continuous face-to-face dialogue between one teacher and one student to the pure system of teaching at a distance (1983b: 60), and from teaching with the complete integration of preparation to presentation by one individual at one end and the total separation of these functions at the other (1987: 163); Lewis suggested a open-closed learning continuum (1986: 7); and following Sewart, Rumble and Mugridge proposed a continuum from the purely contiguous to the purely distant (Rumble 1989: 29, Mugridge 1992a: 61). The following statement is taken from Mugridge which shows the key idea of this philosophy:

> Three years ago in this journal, Greville Rumble discussed the question of the relationship between open and distance learning and argued that "educational and training systems all fall somewhere on a continuum that ranges from the purely contiguous to the purely distant"; that "many of the approaches used by distance education ... can be used to support classroom teaching"; and that "as a result, the divide between contiguous and distance education has become less obvious". In a response to this piece, I noted that such comments were unarguable and the developments that have occurred since have only confirmed this view.
>
> Mugridge 1992a: 61

In a sense, the third school of philosophy identified here is trying to combine the first and second schools, and to some extent, it tends towards the second.

Chapter 4 and the Case Study of China in all three chapters (7, 8 and 9) have seen a more complex phenomenon: most Chinese distance educators tend to accept the first school of philosophy in theory but the practical operation in China's distance higher education system suggests the second and/or third schools.

Notes

CONCLUSION

The CONCLUSION contained 20 pages (pp. 329-348) with 6,590 words originally

In this thesis I have conducted a cross-national comparative study of distance higher education systems based on a newly formulated conceptual framework. Both systematic analysis of the DHE systems (Part II) and examination of critical issues (Part III) in Australia and China with reference to the mainstream model have shown that this conceptual framework is useful and effective for comparative study. This conclusion presents some summative comments on the framework, especially a justification of systems shaping mechanism, followed by a discussion about the options for the early 21st century based on this comparative study.

Summative comments on the SATS conceptual framework

The purpose of this comparative study was not to discover the ultimate philosophical laws governing all DHE systems over all space-time, but to develop an analogical methodology grounded in practice. The thesis has developed a **Systems Analysis, Typology and Shaping Mechanism (SATS)** conceptual framework for the comparative studies of distance higher education systems. This SATS framework can be summarised as follows:

* to analyse each particular system in contextual and internal dimensions, at three (national, institutional and learning group) levels and in terms of two major (administration and operation) subsystems with operational subsystem having three subsectors (learner, teacher and course);
* to compare various systems with each other, to find out the similarities and differences between them, and to identify the characteristics and models in various dimensions for each system based on the newly formulated typology; and
* to examine the endogenous and exogenous links and their inter-relations for each system, to find out the interactions between various systems in the world with special emphasis on the influences which come from the mainstream model, and to interpret their characteristics and models in systems' structure and function based on such an examination.

The framework is indeed both conceptual and methodological, this is because the functions of this framework are not only explanatory, but also instrumental. The systems analytical framework (proposition one) provides the instrument to decompose and analyse existing distance higher education systems in their national contexts. The systems typology (proposition two) offers the instrument to identify and classify the various systems. The systems shaping mechanism (proposition three) proposes the instrument to explain and interpret the various features of the systems. The three propositions in the framework are closely interlinked. Proposition one is the foundation of the overall framework. The reason for this is clear for without systems analysis, neither the systems classification nor the examination of systems shaping mechanism can be made. Proposition two is the bridge which brings together the various analysed systems into a properly formulated typology and

then identifies those general issues critical to most comparable systems. Finally, proposition three is the core of the overall framework, because the main features of the systems need to be interpreted grounded in the systems shaping mechanism.

Generally speaking, the thesis has shown that this SATS framework works well and has produced valuable outcomes. Based on the SATS framework this comparative study has tried to avoid the following three extremes of methodology in comparative education:

* pure positivism: starting from or ultimately searching for a few cross-national universal laws which are supposed to govern all systems over all space-time;
* pure relativism or nationalism: emphasising on its own the national character of each nation but rejecting any ideas about the general characteristics and the cross-national interactions and influences; and
* mainstream dominance: overrating the significance of the mainstream model as an ideal, universal and invariable paradigm and copying the mainstream model everywhere and anytime.

It is true that the proposition one and two are not completely new ones, they have been used by various authors in more or less varied forms. What Part II of this thesis has done is to conduct the systems analysis and the systems classification in Australia and China based on a more logical and well organised framework, and to identify three sets of critical issues from this systematic comparative study. Proposition three is more important and essential for both the SATS framework and this comparative study. The next section will justify the systems shaping mechanism based on the outcomes of the Part III of this thesis.

Justification of the systems shaping mechanism

A DHE **systems shaping mechanism** consisting of six-point statements was developed in Section 2.4 and has been used extensively in Part III for investigating the Australian and Chinese DHE systems' endogenous and exogenous links and their inter-relationships grounded in their own national contexts and from a worldwide perspective. Accordingly, the justification of the systems shaping mechanism can be made first for each of six statements, and then for the overall picture.

Statement 3.1: Two kinds of links and their inter-relationships

All three chapters of Part III (Chapter 7, 8 and 9) have shown that to some extent, the distance higher education systems in Australia and China, their existing status and development trends are shaped by both endogenous and exogenous links and their interactions. For example, the case study of China in Section 7.2 has tried to interpret China's RTVUE, its most industrialised form and its transitional innovation from Fordism to neo-Fordism based on researching two kinds of links and their inter-relationships.

First, the case study examined those endogenous and exogenous features of China's RTVUs system in the end of the 1970s and the first half of the 1980s to interpret why the RTVUE took the most industrialised form of education in that period.

The major exogenous features are briefly listed again below.

* There was a growing higher education market for adults immediately after the 'Cultural Revolution'. Some stimulating elements for such a market have been examined in the case study:
- a great explosion of China's population;
- introduction of a range of socio-economic reform and opening policies;
- the establishment of the national agenda for the socio-economic development characterised by 'four modernisation';
- a serious shortage of, and a great demand for, qualified skilled manpower and various professional personnel in all socio-economic areas, and for all parts of the nation;
- a urgent need for the second chance of higher education for the 'lost generation' in the Cultural Revolution; and so on.
* There was a range of political (in terms of policies mainly) and economic (in terms of finance and organisation mainly) supports from Chinese Government and society:
- the initial decision in favour of establishment and rapid development of RTVUE was made by Mr. Deng after consultation with Mr. Heath;
- three periods of intensive investment including the World Bank Loan project to support the development of RTVUs from the Central Government and other level governments;
- the economic, social and educational support services were also derived from various departments, institutions and organisations and from a great number of grass-roots units; and so on.
* The national colour TV network had been established in China's mainland and the electronic industry had begun its rapid development by the end 1970s.

The major endogenous features are briefly listed again as follows:

* its hierarchical organisation with a five-layer structure based on the operational principle "overall planning, running schools and managing at various layers";
* its centralised system of course development and delivery;
* the concentrated, rationalised and standardised features of its national unified system of course examinations;
* its scientific management and total quality control arrangements;
* the labour division between full-time and part-time academic staff;
* its large scale of operation and the achievement of economies of scale; and so on.

These and many other endogenous links reflect the unique nature of RTVUE, which differentiates it from other campus-based adult higher education and regular higher education, the latter has displayed its elite and craft-like nature.

Both endogenous and exogenous links interacted with each other to make RTVUE the most industrialised form of education in China. By its very nature, RTVUE, but not regular higher education or other campus-based adult higher education, provided the most industrialised form of mass education based on the Fordist paradigm to meet the needs of China's growing mass market for adult higher education in the first half of the 1980s.

The case study then explored a number of crises of RTVUE since 1986. The major crises were the serious reduction in the student numbers in RTVUs system, the under-utilisation of investment and resources (including TV programs), the decrease of cost-efficiency and cost-effectiveness, and the increase of tension and conflict between various structural elements of RTVUE. The exploration has tried to explain these crises based on an examination of unmatched inter-relationships between various changed societal (exogenous) features and RTVUE's (endogenous) unadaptable Fordist features (strategies).

The following major exogenous links that caused changes of RTVUE since 1986 were analysed in the case study:

* There were some changes in China's mass market for adult higher education (from a national unified and homogeneous one to a regionally unbalanced, diversified and changing one) along with socio-economic reform and development;
* Some of the conditions of the labour market and the initial supports coming from various departments and grass-roots units have changed as socio-economic reform processed continuously and deeply;
* More competition between various kinds of higher education systems and institutions has arisen in the late 1980s and 1990s;
* State Education Commission has conducted a Fordist oriented policy shift that forced RTVUE towards a more closed, inflexible and over-centralised and rationalised form.

In addition, the exploration tried to demonstrate that the Fordist paradigm of RTVUE formed in the early 1980s could not adapt itself to the changed exogenous situation which resulted in a crisis. The following major endogenous features of RTVUE's Fordist paradigm were analysed in the case study:

* In some cases the national unified and rationalised programs and curricula were not adaptable to regional needs in different provinces;
* The Alternative Operation System could not fit with the changeable and regionally diversified market;
* Sometimes the structure and content of nationally unified courses were not suited to the needs of the grass-roots units and students;
* There were some problems of course delivery and reception in China's highly concentrated and rationalised system;

* There were also some problems of organisation, management and institutional structure within the highly centralised system; and so on.

Further the case study interpreted the transitional innovation of RTVUE from Fordism to neo-Fordism based on both endogenous and exogenous links and their interactions, especially the RTVUs system's policy response (newly introduced endogenous orientation) to the changed features of exogenous social and educational contexts:

* There was a shift of course development and delivery from a central, highly-rationalised and standardised system to a regionally-responsive, relatively-flexible and diversified system ('mixed system');
* The Alternative Operation System has been changed to the Annual Delivery System for all core courses in various study fields and disciplines;
* A more flexible system of course selecting and credit awarding has gradually been developed;
* RTVUs system has begun to co-ordinate the development of short-cycle courses with a variety of non-diploma courses
* Great effort has been placed on the improvement of design and production of course materials and on the professional development of academics;
* The collaboration and co-operation between RTVUs and other higher education systems were encouraged; and so on.

As a result, these responses in policy and practice have transformed RTVUE from a Fordist to a neo-Fordist strategy and have begun to establish the new inter-relationships between endogenous and exogenous links in this transitional period.

Another example to justify the statement 3.1 is the case study of China in Section 8.2. There was a brief examination of socio-political and economic impacts on the development of adult higher education including distance higher education. The examination highlighted three important periods in development of adult higher education: the foundation of the New China, the 'Cultural Revolution' and the new times of socio-economic development. The examination has shown that in China's context, the development of adult higher education including distance higher education depends on not only its endogenous (educational) links, but also, to a great extent, its exogenous (socio-political, ideological and economic) links and their interactions.

Statement 3.2: Static mechanism of the particular systems

All three chapters of Part III have shown that distance higher education systems in Australia and China have an inherent tendency to retain their relatively stationary existing status and to form specific characteristics and models in particular historical periods. These relatively stationary existing systems can be identified as products of historical development generated by the interactions of both endogenous and exogenous links in particular educational and societal contexts in particular nations. For example, Chapter 8 has shown that a dispersed and integrated dual model system of external

studies and open learning is the Australia's solution, and a national triple system with all three modes (single mode of RTVUs education, dual mode of CHE and quasi mode of STVTT and SEHEIS) is the Chinese historical choice. Section 8.3 has shown that the reasons for Australia's solution come from not only the exogenous features of physical and social environments, but also from the endogenous educational and academic features within the Australia's distance higher education system:

* Vast territory, small population and its heterogeneous distribution are three fundamental features of Australia's physical context which have their implications for distance education system in Australia. Unlike the Great Britain as a 'tiny' island and China as a subcontinent of vast territory and enormous population, a dispersed and integrated system of flexible external studies and open learning has proved quite suitable for serving Australia's needs.
* Australia's political tradition, economic structure and colonialist history have strengthened the Australian solution of a dispersed and integrated higher education system.
* From Karmel Report (1974) to Baldwin's Report (1991), it has been seen clearly that there was a historical legacy to retain Australia's tradition of dispersed and integrated system of higher education and strong resistance from existing institutions to the attempt to establish a highly centralised national open university.
* A dispersed and integrated system in Australia has shown some educational and academic features (merits):
  - achieving academic parity between on and off campus students, ie. keeping the same educational quality and academic standards, and the equivalent values of both degrees and certificates as well;
  - providing a wide range of educational programs and courses at different levels and in various study fields;
  - keeping all academics working in a research-oriented environment to avoid the segmentation of the two groups of academics serving for on or off campus students separately and its potentially possible conflict;
  - benefiting academics and especially students through the development of an integrated pedagogy; and so on.

In Section 8.2, there were analyses on the reasons for development of China's triple system of distance higher education, and the debates between various model institutions. The case study focussed upon the examination of the reasons for development of a national multi-bodied hierarchical system of China' s RTVUs based on both exogenous and endogenous features and their interactions:

* governmental structure and division of responsibilities;
* fiscal system in adult higher education sector;
* regionally based market orientation;
* mobilisation and utilisation of various societal organisations and resources;

* bringing both central and regional initiatives into full play;
* making full use of the national system's integrated advantages and potentials;
* choosing the best professors and the best course materials nationwide;
* setting end-semester national examinations to guarantee educational quality and academic standards nationwide;
* realising high cost-effectiveness and the economies of scale; and so on.

Another examples to justify the statement 3.2 is the case studies in Section 9.2 and 9.3. A group based learning model with learners' less open access and autonomy for China's RTVUE and an individual home based learning model with learners' more open access and autonomy for Australia's external studies and open learning were justified based on their different educational and societal features in their own national contexts.

In short, it is important to realise that the different models adopted by the systems in Australia and China have grown out of their countries' own peculiar needs and histories. They are Australian or Chinese solutions to Australian or Chinese needs in Australian or Chinese societies and Australian or Chinese settings respectively. They do not specifically set out to produce new technologies and media, new programs and curricula, new ideas and pedagogy, and such of these as have developed have arisen, sui generis, from the need to perform specific tasks in each context.

Statement 3.3: Cross-national general characteristics

It has been seen in this comparative study that there are some cross-national general characteristics in various systems' structure and function, and some similar innovative trends and parallel development tracks. These general characteristics come from the inherent nature of distance higher education and its general role in society. Based on this study, four general features of distance higher education systems concerning access, quality, cost-effectiveness and technology can be summarised:

1. Open access and equity feature: distance teaching and learning is a space-time free form of education which is highly or potentially co-related to open learning. Distance teaching and open learning strategies are committed to mass education, ie. to enabling a widespread learner population including various special target groups to access a variety of education and training services;
2. Courses and services delivery quality feature: there is a need for some kinds of two-way communication mechanisms between learners and supporting institutions to guarantee distance teaching and learning operates effectively. The main instrument for this mechanism is pre-designed course materials of didactic conversation style together with various learning support services;
3. Cost-efficiency and cost-effectiveness feature: distance education is a potentially more cost-efficient and cost-effective way to deliver a variety of educational and training courses; and
4. Technology feature: distance higher education is based on the development and application of information technology and various educational media.

In addition, this comparative study has seen five general features concerning socio-economic, technological, political driving forces and the philosophical and pedagogical bases for the ongoing development of distance higher education (refer to Ding 1989b, 1994a, 1994b):

1. Socio-economic driving force: accelerated economic growth and scientific and technological advances have produced a rapidly expanding and diversifying demand for higher education, especially a part-time higher education market for adults. This has become the socio-economic driving force for the development of distance higher education.
2. Technological driving force: great achievements and continuous developments in modern information and telecommunications technologies provide distance education with the technical base for its continuing development and innovation.
3. Political driving force: distance education and open learning have been chosen as one of the strategies for developing higher education and continuing education because most governments are aware of the importance of intellectual investment and have to face financial problems with educational budgets.
4. Philosophical base: the evolution of educational philosophy and ideas such as educational equality and democracy, popularisation and diversification of mass higher education, and the development of adult education and life-long education has built up a conceptual base for the development of distance higher education.
5. Pedagogical base: distance teaching and open learning has been developed grounded in contemporary psychological and pedagogical concepts and principles such as learner centred learning, individualisation and privatisation of institutional learning and resource-based or mediated learning and so on.

However, for various systems in different countries, these cross-national general characteristics must be fitted to their national character and context. For example, this study has shown that distance higher education systems in Australia and China have their different endogenous and exogenous features.

Concerning endogenous features, the systems are quite distinct in:

* their admission policy and cost structure for the provision,
* their administrative and operational organisation of delivering mass higher education,
* in their mediated teaching model and learning strategy and so on.

Concerning exogenous features, both systems are also differentiated from each other in respects of:

* the physical settings,
* the socio-economic environment,
* the nature and scale of the market,
* the use of technology,

* the governments' policy,
* the traditional educational philosophy and pedagogy and so on.

Nevertheless, all these distinctive features have their relevance to the cross-national general characteristics.

Statement 3.4: The mainstream model and its influential role

In this thesis, autonomous distance teaching universities represented by the UK Open University and other large scale mega-universities have been identified as the mainstream model institutions. This comparative study has demonstrated that this mainstream model has played a dominant influential role in practice, policy-making and international literature. This can partly be accounted for by the success and achievements of these institutions. In addition, these mainstream systems have some common features in system's structure and functions, ie. in organisation, administration, and operation (distance teaching and learning). For example, the autonomous distance teaching universities tend to adopt an open admission policy and to generate more open and flexible distance teaching and learning ; they initiate multi-media teaching strategies including mass broadcasting and innovate in the use of modern information and telecommunications technologies; they provide high quality and well designed course materials and various well organised learning support services; they achieve high cost-effectiveness and economies of scale in running the most industrialised form of mass education; and so on. These common features of the mainstream model institutions have been usually recognised as the implications of those general characteristics for all distance higher education systems. In this sense, the mainstream institutions are frequently identified as the standardised and paradigmatic model by the mainstream literature. However, this study has indicated that they are actually a special kind of particular system fitted to particular national characteristics. They share some common features but vary in other respects. In addition, these mainstream institutions face challenges created by societal and educational changes within their national contexts and from outside, and competition from other models of educational provision. This study has also demonstrated that the mainstream conceptualisation of distance higher education in research and literature is a valuable resource for other systems, but it could not and should not be simply copied by the others. Various debates on the mainstream conception of distance education reviewed in this thesis provide evidence that this mainstream conception has had considerable significance worldwide on practice and policy-making, however, it remains the subject of ongoing debates (see Section 7.1, 8.1, and 9.1 mainly).

Statement 3.5: Dynamic mechanism of the particular systems

Distance higher education systems are shaped by both endogenous and exogenous links and, from a different perspective, by both particular national characters and various international influences (especially the impact coming from the mainstream model institutions). This comparative study has shown that the distance higher education systems in Australia and China are shaped by a dynamic mechanism with two kinds of tendency. One comes from their own historical tradition,

existing status and the national contexts, and the other increasingly comes from the interactions between various systems in the world, from an awareness of cross-national general characteristics, and especially from the mainstream paradigmatic influences. For example, the case study of Australia in Section 7.3 has shown how Australian distance higher education has developed over the past two decades from less industrialised external studies to neo-Fordist open learning initiatives. The case study concentrated on examination of the Australian Government's dominant policy on distance higher education in the 1980s, from Johnson's Report in 1983 to the Dawkins' revolution at the end of the 1980s, which have been criticised as being underpinned with an essentially Fordism-oriented conceptualisation. The study revealed that such a Fordist conceptualisation is derived from the successful experiences of the UK Open University and other mainstream model institutions. However, the case study has demonstrated that the mainstream paradigm and its Fordist conceptualisation were not appropriately apply to Australia's long established dispersed and integrated distance higher education system and to Australia's national character at the end of this century. Furthermore, the study examined the policy shift by the Australian Government and the new ventures in open learning initiatives since the early 1990s. The case study has interpreted Australian Open Learning Initiative, characterised by more open access and flexible learning, and further integration of mixing various study modes within existing dual mode universities, as a neo-Fordist solution in the Australian current context.

Another example to justify the statement 3.5 is the case study of Australia in Section 8.3. In Australia, the origin of distance education at university level started early this century in the form of the integrated dual model. Australian distance educators consider this model not only a historical legacy, but also an indicator of national uniqueness. Though significant changes and shifts about the policies on distance higher education have occurred since the end of the 1980s, the fundamental characteristics of Australian dispersed and integrated dual model have remained. The case study concentrated on the debate about organisational models of DHE system in Australia between two groups. Group one prefers to keep the traditional and unique Australian dispersed and integrated dual model, while group two wishes to reform the Australian DHE system by referring to the mainstream model in the world. In fact, the two groups in policy-making and practice reflected the two opposite forces in dynamic mechanism of shaping Australian distance higher education system. This can also be seen in Chapter 5 where a historical review of Australia's distance higher education with the focus on the continuing debate concerning the establishment of a single national open university and recent changes and shifts in policies and practice has been conducted.

Statement 3.6: Historical evolution

Distance higher education has its own evolutionary history. There are no permanently invariant endogenous and exogenous links and their inter-relationships, nor is there a permanent mainstream model. From an international perspective, the conception of three generations concerning information technology and distance education has been generally accepted. That is, before the 1970s, the mainstream model was the correspondence teaching system which was based on written

and printed materials and postal services technically. Since the 1970s, the second generation of autonomous distance teaching institutions have replaced the first generation of correspondence education as the current mainstream model. The second generation of mainstream model has been based on the development of mass communication multi-media including radio and TV broadcasts. While the 20th century approaches its end, the third generation of distance education with increasing emphasis upon two-way interactive information and telecommunications technologies and more open and flexible teaching and learning features has challenged the current mainstream model of the second generation. In addition, correspondence education provided by small scale dual mode institutions has been recognised as the less industrialised or pre-Fordist form of education, whereas current mainstream model mass education represented by the autonomous distance teaching mega-universities is commonly identified as the most industrialised form and Fordist paradigm of education. Now both of them are challenged increasingly by educational and societal changes generated in the shift from modern industrial society to a post-modern information society. Accordingly, not only technology based distance teaching and learning strategies, but also organisational and administrative paradigms are changing constantly. Virtual teaching based on various two-way telecommunication technologies are developing in many parts of the world. The development of multimedia and the information superhighway has become one of the focuses in international education. Distance higher education systems in single, dual or mixed modes, along with the campus based conventional education institutions have to face more competition and collaboration.

This comparative study has also demonstrated the unique evolutionary history of both the Australian and the Chinese distance higher education systems. One predictable evolutionary picture is that as a result of the interactions between two kinds of shaping forces: particular national characters and various international influences, both the tendencies of convergence and pluralism will coexist and interact with each other in the future development of distance higher education worldwide.

Summary

The six statements in the systems shaping mechanism are closely linked with each other. Statement 3.1 of two kinds of links and their inter-relationships sets up an overall foundation for researching the systems shaping mechanism. That is, either the particular systems, the mainstream model institutions and the general characteristics for the most systems in the world, or the relatively stationary static models in a certain historical period and the dynamic evolution tracks in the history, could be understood and interpreted by exploring both endogenous and exogenous links and their interactions. Statements 3.2 and 3.5 propose the static and dynamic mechanisms for the particular systems respectively. Statements 3.3 and 3.4 approach the general characteristics of most systems and the mainstream model systems in the world respectively. Finally, statement 3.6 refers to the historical evolution of distance education systems in the world. Only the six statements together can

give an overall interpretation for each particular system and for the global community of distance higher education from both perspectives of national characters and international influences.

Options for the early 21st Century

A brief prospect for the future development of distance higher education in the early 21st century worldwide, and especially in Australia and China is the theme of this section.

A worldwide perspective

The interest in future options first arises from the awareness of changing societal context by the end of the 20th century. In Western developed countries, modern industrial society has begun to give way to an information society with many post-modern and post-industrial features. In Eastern developing countries, though modernisation and industrialisation are still a significant task, along with the progress of economic globalisation the information revolution is knocking at the door. Not only science and technology, but also social structures change rapidly in an information society. All of these factors have very important implications for the future of distance higher education. The future concerns also derive from the changing educational circumstances during the intersection of the two centuries. Information society is a learning society. Post-compulsory education, especially mass higher education and continuing education for adults will become a significant part of any national educational systems. The ongoing growth of adult education and life-long education and the development of various kinds of resource-based teaching and learning will continuously change traditional educational philosophy and pedagogy. Distance education and open learning will make significant contributions to and benefit from such general developments and changes. With these contextual changes in mind, the future options for educational development in the early 21st century worldwide could be summarised as follows:

* Conventional education will maintain its position as the mainstream form of provision. Advanced technology will make inroads into traditional instruction. A significant proportion of instruction in higher education on campus will be carried on through information technology in addition to the face-to-face oral interaction process. Gradually, there will be an increasing convergence between conventional and distance education. Eventually, conventional instruction will evolve from a pre-industrial (handicraft) form to a post-industrial form (information technology intensive, with high levels of academic responsibility and a learner-centred approach).

* All distance education systems need to improve further in the open learning dimension, that is, to make continuing efforts not only in openness and equity of access, but also in openness and flexibility of teaching and learning. Conventional educational institutions can also make a great contribution in developing open learning initiatives. They may offer open learning courses independently, jointly and/or collaboratively with distance education provision. Open learning will be the most significant development in the sector of continuing education and in-service training.

* Distance teaching universities will continue to develop early in the next century. However, for most dual mode universities, distance education or off-campus studies will continue to be treated as second rate by the institutions and as a marginal job by academic staff. Most campus based universities, especially those well-known ones will not convert themselves into dual mode universities. Nevertheless, there will be a growth in the number of the campus based universities converted into the dual mode universities and an increasing number of dual mode universities where on-campus and off-campus studies have been operated in an integrated way. In the next century, distance teaching universities, dual mode universities and various kinds of multi-bodied models of provision will have to face more competition and will need more collaboration in forming various national systems and in becoming part of the globalisation process.

A Chinese perspective

Since the end of the 1970s, China has opened the door to the outside world and has entered a new period of socio-economic reform and development as the centre of the national agenda. China has planned to accelerate its modernisation process and to catch up with Western developed countries by the middle of the next century. The development of education including higher education and adult education has been put into a strategic base for this commitment. Due to its huge population and vast territory, and the weak and unbalanced development of its higher education system, distance higher education for adults will have great strategic significance for Chinese modernisation in the next century.

* China will keep a national binary system of higher education consisting of regular higher education institutions (RHEIs) and adult higher education institutions (AHEIs). Based on Chinese character, in the early 21st century, China's conventional higher education (RHEIs) will retain its handicraft, elite and closed features: residential full-time studies on campus for young school leavers who pass the National Unified Entrance Examinations (NUEE) successfully. Nevertheless, along with economic development and technological advance in Chinese society, China's conventional higher education will gradually carry out a series of reforms and innovations moving towards a more open, cost-effective and technology based system.

* China's adult higher education (AHEIs) will continue to develop in two sectors: campus based and distance provision. In the Chinese context, distance higher education will develop more rapidly. China's national triple system of distance higher education with single (RTVUE), dual (CHE) and quasi (SEHEIS) mode will develop further. Competition needs to be balanced and coordinated, and collaboration needs to be encouraged and developed by formulating new policies, funding scheme and evaluation by the Government and by encouraging various initiatives by the institutions.

* China's RTVUE should and could develop more rapidly in the early part of the next century. Some recent innovative trends will develop further efforts:
- to meet the needs of changing market nationally, locally and individually;

- towards a more open and flexible learner-centred learning policy and strategy;
- in innovation in the use of educational technology and improvement in instructional design of course materials; and
- to continue to construct and improve the infrastructure for student learning support services.

In this way, the national RTVUs system will continuously shift from a highly centralised Fordist paradigm into a more decentralised and flexible neo-Fordist and then post-Fordist model.

* In the Chinese context, the RHEIs will continuously make their contribution to adult higher education in the form of running evening schools, correspondence higher education (CHE) and state administered examinations of higher education for independent study (SEHEIS). More and more RHEIs will convert themselves into dual mode providers with both on and off campus studies for young school leavers and employed adults.

China will continuously share experiences and perceptions of distance education and open learning with other nations in the world, especially with those developed countries in Asia and some Western developed countries.

An Australian perspective

Since the 1980, according to the Australian Government's policy, the education and training system has been harnessed to play a more central and active role in responding to the major economic challenges facing the nation. At the same time, significant developments in information and telecommunication technologies had generated paradigm shifts in the nature and processes of teaching and learning, especially in Australia's higher education sector. Since then, the face of tertiary education in Australia has changed quickly and significantly. The future development of Australian distance higher education in the early 21st century will continue to be in the direction of more open, flexible and innovative teaching and learning based on technological advances within the integrated Unified National System (UNS) of higher education and in a close relationship with Australia's socio-economic development.

* There will be a continuously increasing emphasis on the professional and vocational outcomes of higher education, continuing education and in-service training, substantially related to the job market and an increasing emphasis on lifelong learning. The links between education provision and business and industry will also be strengthened. A more corporate approach to the business of education with a focus on students as clients will be increasingly emphasised in the organisational structures and management arrangements within universities. At the same time, Australian tertiary education will develop an increasingly international interest.

* Participation rates will increase continuously for both young school leavers and mature-age students. The numbers of external and part-time students will also increase and the mixed mode will develop further. The integrated dual model as a deep-seated tradition will continuingly shape the

future system of Australia's higher education. Three essential issues of distance (dispersed physically and socio-psychologically), variety (various study modes and their transferability) and proximity (academic parity) will have to be solved in the development of such an integrated system. Several implications can be included:

- it is difficult to envisaged that there will be a distance education and open learning provision outside of the existing integrated system;
- no limit of distance education and open learning provision by any conventional university will be introduced;
- various kinds of open learning initiative will develop further within the existing system through various forms of cooperation and collaboration;
- integration of all possible modes of learning will be encouraged;
- a new integrated pedagogy different from either traditional classroom based or the current mainstream distance teaching and learning theories will develop further.

* In order to address the eternal triangle of access, quality and cost-effectiveness and to develop more open, flexible and innovative teaching and learning, the on-going revolution in information and telecommunication technologies will play a more and more important role in the whole sector of tertiary education including distance higher education and open learning.

* Australia's integrated system of tertiary education with both distance and on-campus wings has the potential to attract overseas enrolments and to provide various off-shore services. This is a future option which matches the policies of actively participating in the development of the Asian-Pacific regional collaboration and building up a multicultural society, and will enable Australia's tertiary education to transcend national boundaries in a period of socio-economic globalisation.

Australia will develop its integrated and flexible model of distance higher education and make a unique contribution to the global processes, and at the same time, it will continuously make references to the UK's and many other nations' systems.

Notes

BIBLIOGRAPHY

The BIBLIOGRAPHY contained 37 pages (pp. 349-385) with 11,545 words originally

Bibliography in English

Amundsen, C. (1993) The evolution of theory in distance education. In Keegan, D. (ed) (1993) *Theoretical Principles of Distance Education*. Routledge, pp. 61-79.

Atkinson, E. et al (1996) *Final Report on Evaluation of the Open Learning Initiative, Tertiary Access Through a National Brokerage Agency*. Centre for the Study of Higher Education, the University of Melbourne.

Baath, J. (1981) On the nature of distance education. *Distance Education*, 2 (2): 212-9.

Badham, R. & Mathews, J. (1989) The New Production Systems Debate. *Labour and Industry*, 12(2): 194-246.

Baldwin, P. (1991) *Higher Education: Quality and Diversity in the 1990s*. AGPS, Canberra.

Bates, A. (1991) Third Generation Distance Education: The Challenge of New Technology. *Research in Distance Education*, April, pp. 10-15.

Bates, A. (1993) Theory and practice in the use of technology in distance education. In Keegan, D. (ed.) (1993a) *Theoretical Principles of Distance Education*, Routledge, pp. 213-33.

Bayliss, H. (1995) Postgraduate distance learning in British dual mode universities. *Open Learning*, 10(1): 46-51.

Braithwaite, B. & Batt, K. (1975) Open Learning: the Australian Contribution. In MacKenzie, N. et al (eds) (1975) *Open Learning -- Systems and problems in post-secondary education*. The UNESCO Press.

Campion, M. (1990a) Distance education and the debate about Fordism in industry. In Evans, T. (ed) *Distance Education for training in Business and Industry*, ASPESA 1989 Forum conference proceedings, Churchill: Centre for Distance Learning, Gippsland Institute, pp. 176-194.

Campion, M. (1990b) Post-Fordism and Research in Distance Education. In Evans, T. (ed). *Research in distance education I* , Geelong: Institute of Distance Education, Deakin University, pp. 59-71.

Campion, M. (1992) Revealing links: post-Fordism, postmodernism and distance education. In Evans, T. and Juler, P. (eds) (1992) *Research in distance education II*. Geelong: Institute of Distance Education, Deakin University, pp. 5-51.

Campion, M. (1993a) Post-Fordism: neither Panacea nor Placebo. *Open Learning*, 8 (2): 59-60.

Campion, M. (1993b) Implications for research in distance education of the distinction between exogenous and endogenous factors. A preprint. the External Studies, Murdoch University.

Campion, M. (1995a) The supposed demise of bureaucracy: Implications for distance education and open learning - more on the post-Fordism debate. *Distance Education*, 16 (2): 192-216.

Campion, M. (1995b) Guest editorial. *Distance Education*, 16 (2): 188-90.

Campion, M. (1996) Post-Fordism: not a poison either! *Open Learning*, 11 (1): 41-6.

Campion, M. and Guiton, P. (1991) Economic instrumentalism and integration in Australian External Studies. *Open Learning*, 6 (2): 12-20.

Campion, M. and Kelly, M. (1988) Integration of external studies and campus-based education in Australian higher education: the myth and the promise. *Distance education*, 9 (2): 171-201.

Campion, M. and Renner, W. (1992) The supposed demise of Fordism-implications for distance education and higher education. *Distance Education*, 13 (1): 7-28.

CCHE (1972) *The Fourth Revolution, Instructional Technology in Higher Education*. A Report and Recommendations by The Carnegie Commission on Higher Education, Mcgraw-Hill Book Company.

CGA & OLA (1993) *Agreement: Schedule 1 - Services & Schedule 2 - the Commonwealth's Obligations*. It was signed by the Commonwealth Government of Australia and the Open Learning Australia on 18 January 1993.

Clark, R. (1983) Reconsidering research on learning from media. *Review of Educational Research*, 53(4), 445-60.

Dahllof, U. (1977) Reforming higher education and external studies in Swedish and Australia. *Uppsala Studies in Education 3*. Uppsala: Almqvist & Wiksell International.

Dahllof, U. (1984) Towards a contextual rationale in distance higher education: The small-scale cases of Australia and Sweden. A contribution to the International Workshop Distance Higher Education and the Adult Learner organised by the Dutch Ministry of Education and Science. The Netherlands. 22-24 October 1984.

Daniel, J. (1983) Independence and interaction in distance education: New technologies for home study. *Programmed learning and educational technology (PLET)*, 20 (3), 155-60.

Daniel, J. (1995) *The Mega-universities and the Knowledge Media: implications of new technologies for large distance teaching universities*, MA Thesis. Concordia University, Montreal, Canada.

Daniel, J. (1996a) New kids on the box: Distance education enters its third generation. In McBeath, C. & Atkinson, R. (eds) (1996) *The Learning Superhighway: New World, New Worries?* The 3rd Interactive Multimedia Symposium, Perth Western Australia, 21-25 January, 1996. Promaco Conventions Pty Ltd, pp. 1-9.

Daniel, J. (1996b) Implementing a technology strategy for a mega-university: The INSTILL project. In McBeath, C. & Atkinson, R. (eds) (1996) *The Learning Superhighway: New World, New Worries?* The 3rd Interactive Multimedia Symposium, Perth Western Australia, 21-25 January, 1996. Promaco Conventions Pty Ltd, pp. 95-8.

Daniel, J & Marquis, C. (1979) Interaction and independence: getting the mixture right. *Teaching at a distance*, 14.

Dawkins, J. (1987) Green Paper - *Higher Education: A Policy Discussion Paper*. AGPS, Canberra.

Dawkins, J. (1988) White Paper - *Higher Education: A Policy Statement*. AGPS, Canberra.

DEET (1987, 89, 90, 91) *Selected Higher Education Statistics*.

DEET (1991b) *Higher Education Student Data Collection*.

DEET (1992, 93) *Selected Higher Education Statistics - Preliminary*.

Delling, R. (1987) Towards a Theory of Distance Education. *ICDE Bulletin*, 13.

Dewal, O. (1986) Open School, India: The preliminary years, 1979-1983. A case study, *Deakin Open Education Monographs*, No. 3, Victoria: Deakin University, The Distance Education Unit.

Dieuzeide, H. (1985) Les enjeux politiques. In F. Henri and A. Kaye (eds) *Le Savior a Domicile*, Quebec: Teleuniversite, pp. 33-34.

Ding, X. (1986a) Review and prospects in using media. In *Proceeding of the First International Symposium on University Distance Education*. The University of the Air Press, Chiba Japan, pp. 9-19.

Ding, X. (1992) China's Radio and TV Universities - A unique system of distance education in the world. Apreprint at Murdoch University, Perth.

Ding, X. (1994a) Economic analysis of Radio and TV Universities Education in China. A paper presented at the VIIth Annual Conference of the Asian Association of Open Universities, in Hong Kong between 21 and 24, November, 1993, published in Dhanarajan, G. et al (eds) *Economics of Distance Education: Recent Experience*, Open Learning Institute Press, Hong Kong, Chapter 13, pp. 157-70.

Ding, X. (1994b) Economic analysis of the Radio and Television Universities in China. *Open Praxis*, the Bulletin of the ICDE, 1994 (2): 14-21.

Ding, X. (1994c) China's distance higher education - Its four systems and their structural characteristics at three levels. *Distance Education*, 15 (2): 327-346.

Ding, X. (1995a) From Fordism to Neo-Fordism: Industrialisation Theory and Distance Education - A Chinese Perspective. *Distance Education*, 16 (2): 217-240.

Ding, X. (1995b) China's Distance Higher Education - Its System, Structure and Administration. A paper presented at the VIIIth Annual Conference of the Asian Association of Open Universities, in New Delhi, 20-22 February, 1995. *Conference Papers* Vol. 1, pp. 260-274.

Ding, X. (1996) Three Debates but One Focus - A Future Option for Distance Education and Open Learning and Implications for Research: A Chinese Perspective. A conference paper presented in RIDE '96, Deakin University, Geelong.

Ding, X. et al (1989b) Global designing and creative practice of multi-media teaching materials. China TV University Education, 1989 (8): 10-3. Also in Xie, X. et al (eds) (1991), Papers Presented at International Symposium on Distance Higher Education (Beijing, 1989). CRTVU Publishing House, pp. 53-65.

Dohmen, G. (1967) Das Fernstudium, Ein neues padagogisches Forschungs-und Arbeitsfeld (Distance Education. A New Field of Educational Research and Activity). Tubingen: DIFF.

Edwards, R. (1991) The inevitable future? post-Fordism and open learning. *Open Learning*, 6 (2): 36-42.

Einsenstadt, M. (1995) Overt strategy for global learning. *Times Higher Educational Supplement - Multimedia Section*, 7 April, vi-vii.

El-Bushra, J. (1973) *Correspondence Teaching at University*. Cambridge: International Extension College.

Epstein, I. (1988) the Problematic Meaning of 'Comparison' in Comparative Education. In Schriewer, J. & Holmes, B. (eds) (1988) *Theories and Methods in Comparative Education*. Verlag Peter Lang, Frankfurt etc. pp. 3-23.

Evans, T. & Nation, D. (1992) Theorising open and distance education. *Open Learning*, 7 (2): 3-13.

Farnes, N. (1993) Modes of production: Fordism and distance education. *Open Learning*, 8 (1): 10-20.

Foks, J. (1987) Towards open learning. In Smith, P. and Kelly, M. (eds) (1987), *Distance education and the mainstream: convergence in education*. London. Croom Helm.

Fritsch, H. (1995) A comment upon Fordism in distance education in relation to the reunification process in Germany. *Distance Education*, 16 (2): 302-8.

Garrison, D. (1985) Three generations of technological innovation in distance education, *Distance Education*, 6 (2): 235-241.

Gaskell, A. & Mills, R. (1989) Interaction and independence in distance education : What's been said and what's been done? *Open Learning*, 4 (2): 51-2.

Gough, E. (1981) Distance Education at Deakin University and University Sains Malaysia. *Open Campus*, 3 (1): 10-15.

Halls, W. (ed) (1990) *Comparative Education: Contemporary issues and trends*. International Bureau of Education educational sciences, Jessica Kingsley Publishers, UNESCO.

Harman, E. (1991) *The Cost of distance Education at Australian Distance Education Centres*. A report prepared for DEET and Working Party on External Load Funding of the National Distance Education conference.

Hawkridge, D. & McCormick, B. (1983) China's Television Universities. *British Journal of Educational Technology*, 14 (3): 160-173.

Healy, G. (1992) Open Learning launch: trial by TV for higher education. *Campus news*, vol. 2, No. 6, February 20-26, 1992.

HED of DEET (1993a) *National Report on Australia's Higher Education Sector*. Canberra, AGPS.

Holmberg, B. (1977) *Distance Education: A Survey and Bibliography*. London: Kogan Page.

Holmberg, B. (1985a) *Status and trends of distance education*. Second revised edition with an alphabetical and systematic bibliography. Lund, Lector Publishing, Sweden.

Holmberg, B. (1986a) *Growth and Structure of Distance Education*. London: Croom Helm.

Holmberg, B. (1986b) A discipline of distance education. *Journal of Distance Education*, 1 (1): 25-40.

Holmberg, B. (1989a) *Theory and practice of distance education*. London and New York: Routledge.

Holmberg, B. (1989b) Perspectives of Research on Distance Education. In Xie, X. et al (eds) (1991), Papers Presented at International Symposium on Distance Higher Education (Beijing, 1989), Beijing: CRTVU Publishing House, pp. 203-235.

Holmberg, B. (1995a) *Theory and practice of distance education*. Second edition. London and New York: Routledge.

Howse, W. (1992) Where are we going? The DECs WADEC and the future. In Herrington, J. (ed) (1992) *Distance Education -- Future Visions*. WADEC.

Hudson, H. (1986) *Review of Efficiency and Effectiveness in Higher Education* - Report of the Committee of Inquiry. CTEC, September 1986, AGPS, Canberra.

ICDL (1995) *Mega-Universities of the World: The Top Ten*. The UKOU and the ICDL.

Jarvis, P. (1996) Distance education in a late modern society. *Open Learning*, 11 (1): 47-50.

Johnson, R. (1983) *The Provision of External Studies in Australian Higher Education*. the CTEC report.

Johnson, R. (1990) *Open Learning: Policy and Practice*. A discussed paper commissioned by the National Board of Employment, Education and Training and the Department of Employment, Education and Training, Canberra.

Johnson, R. (1991) Where do we go from here? In Atkinson, R. et al (eds) *Quality in distance education: ASPESA forum 91*. Bathurst: Australian and South Pacific External Studies Association, pp. 1-10.

Karmel, P. (1974) *Open Tertiary Education in Australia* - Final Report of the Committee on Open University to the Universities Commission. PCA, AGPS, Canberra, December, 1974.

Kaye, A. and Rumble, G. (1979) *An Analysis of Distance Teaching Systems*. Milton Keynes: Open University.

Kaye, A. and Rumble, G. (eds) (1981) *Distance teaching for higher and adult education*, London: Croom Helm.

Keegan, D. (1980a) On Definition of Distance Education. *Distance Education*, 1 (1): 13-36.

Keegan, D. (1980b) On the Nature of Distance Education. *ZIFF Papiere* 33, Hagen: FernUniversitat, ZIFF.

Keegan, D. (1982a) A Typology of Distance Teaching at University Level. In one of the course units developed for the Graduate Diploma in Distance Education of the South Australian College of Advanced Education in Adelaide.

Keegan, D. (1983) Review of Daniel et al. Learning at a Distance, A World Perspective. *International Review of Education* 29 (4), 501-3.

Keegan, D. (1986) *Foundation of distance Education*. London: Croom Helm.

Keegan, D. (1989a) Australian External Studies Within a Typology of Distance Education Systems Throughout the World. In Xie, X. et al (eds) (1991) *Papers Presented at International Symposium on Distance Higher Education (Beijing, 1989)*. Beijing: CRTVU Publishing House.

Keegan, D. (1990a) *Foundations of Distance Education*. Second Edition. London and New York: Routledge.

Keegan, D. (ed) (1993a) *Theoretical Principles of Distance Education*. Routledge.

Keegan, D. (1993c) The Theoretical Underpinnings of Distance Education. In Ortner, G. et al (1993) *Distance Education as Two-Way Communication: Essays in Honour of Borje Holmberg*, Peter Lang, pp 76-87.

Keegan, D. (1994b) The competitive advantages of distance teaching universities. *Open Learning*, 9 (2): 36-9.

Keegan, D. & Rumble, G. (1982a) Distance Teaching at University Level. In Rumble, G. and Harry, K. (1982) *The Distance Teaching Universities*. London: Croom Helm.

Keegan D. and Rumble G. (1982b) The DTUs: An Appraisal. In Rumble, G. and Harry, K. (1982) *The Distance Teaching Universities*. London: Croom Helm.

Shi, Z. (1989) A Study on the Efficiency of Utilising Information Resources in Radio and TV Education. In Xie, X. et al (eds) (1991), *Papers Presented at International Symposium on Distance Higher Education (Beijing, 1989)*. CRTVU Publishing House, pp. 74-83.

Kember, D. & Murphy, D. (1990) A synthesis of open, distance and student centred learning. *Open Learning*, 5 (2): 3-8.

King, B. (1989) Educational Development and the DECs. A paper presented at 9th Biennial Forum of ASPESA, 10-14 July 1989, Gippsland Institute of Advanced Education.

King, B. (1992) The Open Learning Initiative: New directions for higher education. A paper presented to the Conference of the Australian Society for Education Technology, October 1992, University of South Australia.

King, B. (1993a) Whose Future - The Government's, the DECs' or the OLAA? In Nunan, T. (ed) (1993) *Distance Education Futures*. Australian and South Pacific External Studies Association, 11th Biennial Forum, Terrace Inter-Continental Adelaide, July 1993, pp. 127-44.

King, B. (1993b) Open Learning in Australia: Government intervention and institutional response. *Open Learning*, 8 (3): 13-25.

Lewis, R. (1986) What is open learning? *Open Learning*, 1 (2): 5-10.

Lewis, R. & Spencer, D. (1986) *What is open learning?* Guides series Vol. 4. London: Council for Educational Technology.

Mason, R. (1996) Large Scale Distance Teaching and the Convergence of Telecommunications and Multimedia. In McBeath, C. & Atkinson, R. (eds) (1996) *The Learning Superhighway: New World, New Worries?* The 3rd Interactive Multimedia Symposium, Perth Western Australia, 21-25 January, 1996. Promaco Conventions Pty Ltd, pp. 260-6.

McCormick, R. (1980) Central Broadcasting and Television University. *The China Quarterly*, 1980 March: 129-136, London.

McCormick, R. (1982) The Central Broadcasting and Television University, People's Republic of China. In Rumble, G. and Harry, K. (eds) (1982) *The distance teaching universities*. London, Croom Helm, pp 54-71.

McCormick, R. (1992) *Distance Higher Education in The People's Republic of China*. A PhD thesis, unpublished.

Moore, M. (1971) Teaching the distant adult learner. Madison, University Department of Curriculum and Instruction, unpublished.

Moore, M. (1973) Towards a theory of independent learning. *Journal of Higher Education*, 44: 661-679.

Moore, M. (1977b) On a theory of independent study. *ZIFF Papiere* 16. Hagen: FernUniversitat.

Moore, M (1988) Book Review: The Foundations of Distance Education by Desmond Keegan. *Open Learning*, 3 (3): 56-7.

Moore, M (1995) American Distance Education, A Short Literature Review. In Lockwood, F. (1995) *Open and Distance Learning Today. Routledge*, pp. 32-41.

Mugridge, I. (1992a) Response to Greville Rumble's article 'The competitive vulnerability of distance teaching universities'. *Open Learning*, 7 (3): 61-2.

Neil, M. (1981) *Education of Adults at a Distance*. A Report of the Open University's Tenth Anniversary International Conference. London: Kogan Page.

Nipper, S. (1989) Third Generation Distance Learning and Computer Conferencing In Mason R. and Kaye A. (eds) (1989) *Mindweave: Communication, Computers and Distance Education*. Oxford: Pergamon.

Nunan, T. & Calvert, J. (1992) *Report of the Project to Investigate Quality and Standards in Distance Education*. A report to the National Distance Education Conference.

Orivel, F. (1982) Economic Justification. Preparation of a proposed World Bank Education Project in China, Annex 2: Television University, pp. 1-29.

Ortner, G. et al (1993) *Distance Education as Two-Way Communication: Essays in Honour of Borje Holmberg*. Peter Lang.

Peng, C. (1987) On the Benefit of Radio and TV University. *Liaoning Higher Education Research*, 1988 (1). Also in Xie, X. et al (eds) (1991) *Papers Presented at International Symposium on Distance Higher Education (Beijing, 1989)*, CRTVU Publishing House, pp. 98-106.

Perraton, H. (1981) A theory for distance education. *Prospects*, 11 (1): 13-24.

Perry, W. (1984) *The state of distance-learning worldwide: the first report on the index of institutions involved in distance-learning*. International Centre for Distance Learning of the United Nations University, c/o the Open University, UK.

Perry, W. (1993) The Birth of the Open University: the Unwanted Infant and Its Children. In Ortner, G. et al (1993) *Distance Education as Two-Way Communication: Essays in Honour of Borje Holmberg*. Peter Lang, pp. 226-8.

Peters, O. (1965) *Der Fernunterricht. Materialien zur Diskussion einer neuen Unterrichts-form*. Weinheim: Beltz.

Peters, O. (1967) *Das Fernstudium an Universitaten und Hochschulen. Didaktische Struktur und Interpretation: ein Beitrag zur Theorie der Fernlehre* (The didactical structure and interpretation of university distance education. A contribution to the theory of distance teaching). Weinheim: Beltz.

Peters, O. (1968) *Das Hochschul Fernstudium. Materialien zur Diskussio einer neuen Studienform*. Weinhein: Beltz.

Peters, O. (ed) (1971a) *Texte Zum Hochschulfernstudium*. Weinheim: Beltz.

Peters, O. (1971b) Theoretical aspects of correspondence instruction. In Mackenzie, O. and Christensen, E. (eds) *The Changing World of Correspondence Study*. University Park: Pennsylvania State University.

Peters, O. (1973) *Die didaktische Struktur des Fernunterrichts. Untersuchungen zu einer industrialisierten Form des Lehrens und Lernens* (The Didactical Structure of Distance Teaching. Investigations into an Industrial Form of Teaching and Learning). Weinhaim & Basel: Beltz.

Peters, O. (1983) Distance teaching and industrial production: A comparative interpretation in outline. In Sewart et al (eds) (1983) *Distance education international perspectives*. London: Croom Helm.

Peters, O. (1989) The iceberg has not melted: further reflections on the concept of industrialisation and distance education. *Open Learning*, 4 (3): 3-8.

Peters, O. (1993a) Distance Education: A Revolutionary Concept. In Ortner, G. et al (1993) *Distance Education as Two-Way Communication: Essays in Honour of Borje Holmberg*. Peter Lang, pp. 28-34.

Peters, O. (1993b) Distance education in a postindustrial society. In Keegan, D. (ed) (1993) *Theoretical Principles of Distance Education. Routledge*, pp. 39-58.

Peters, O. (1996) Distance education is a form of teaching and learning sui generis. *Open Learning*, 11 (1): 51-4.

Pritchard, (1994) Open Learning Australia: Accessible and Flexible Higher Education. In Ellis, A. & Lowe, J. (eds) (1994) *Access Through Open Learning: With a Major Focus on Achieving Flexibility*. Southern Cross University, Australia.

Richmond, B. (1990) The Ending of an Era: External Studies in The University of Queensland. A working paper in Distance Education, School of External Studies and Continuing Education, The University of Queensland, November, 1990, No. 13.

Rumble, G. (1989) 'Open learning', 'distance learning', and the misuse of language. *Open Learning*, 4 (2): 28-36.

Rumble, G. (1992b) The competitive vulnerability of distance teaching universities. *Open Learning*, 7 (2): 31-45.

Rumble, G. (1994) The competitive vulnerability of distance teaching universities: a reply. *Open Learning*, 9 (3): 47-9.

Rumble, G. (1995a) Labour market theories and distance education I: Industrialisation and distance education. *Open Learning*, 10 (1): 10-20.

Rumble, G. (1995b) Labour market theories and distance education II: How Fordist is distance education. *Open Learning*, 10 (2): 12-28.

Rumble, G. (1995c) Labour market theories and distance education III: Industrialisation and distance education. *Open Learning*, 10 (3): 10-20.

Rumble, G. and Harry, K. (eds) (1982), *The distance teaching universities*. London, Croom Helm.

Rumble G. and Keegan D. (1982b) General Characteristics of The Distance Teaching Universities. In Rumble, G. and Harry, K. (1982) *The Distance Teaching Universities*. London, Croom Helm.

Schramm, W. (1977) *Big media, little media*. Beverly Hills, CA: Sage Publications.

Scriven, B. & Lundin, R. (1992) Open Learning Centres in Queensland. *Open Learning*, 7 (1): 65.

Sewart, D. (1978) *Continuity of Concern for Students in a System of Learning at a Distance*. Hagen: Fernuniversitat (ZIFF).

Sewart, D. (1983b) Distance teaching: a contraction in terms? In Sewart, D. et al (eds) (1983) *Distance education: international perspectives*. Beckenham/Kent, Croom Helm, pp. 46-62.

Sewart, D. (1987) Staff development needs in distance education and campus-based education: are they so different? In Smith, P. and Kelly, M. (eds) (1987). *Distance education and the mainstream: convergence in education*. London, Croom Helm.

Sewart, D. (1992) Mass Higher Education: Where are we going? In Ortner, G. et al (eds) *Distance education as two-way communication*. Frankfurt am Main, Peter Lang, 229-239.

Sewart, D. et al (eds) (1983) *Distance education: international perspectives*. Beckenham/Kent, Croom Helm.

Shi, Z. (1989) A Study on the Efficiency of Utilising Information Resources in Radio and TV Education. In Xie, X. et al (eds) (1991), *Papers Presented at Internctional Symposium on Distance Higher Education (Beijing, 1989)*. CRTVU Publishing House, pp. 74-83.

Smith, K. (1986) Distance Education: the New Frontier of Learning. A paper presented at the Twelfth International Conference on Improving University Teaching (IUT) held at the University of Heidelberg.

Tight, M. (1987) Mixing distance and face-to-face higher education. *Open Learning*, 2 (1): 14-18.

Tight, M. (1988) Defining Distance Education. *ICDE Bulletin*, 18.

Wedemeyer, C. (1981) *Learning at the back door, Reflections on non-traditional learning in the lifespan*. Madison: University of Wisconsin.

White, V. (1992) Response to Greville Rumble's article 'The competitive vulnerability of distance teaching universities'. *Open Learning*, 7 (3): 59-60.

Willen, B. (1981) *Distance education at Swedish universities: An evaluation of the experimental program and a follow-up study*. Uppsala: Almqvist & Wiksell International.

Willen, B. (1987) Self-directed learning and distance education. *Epistolodidaktika*, 2, 52-69.

Willen, B. (1988) What happened to the Open University - in brief. *Distance Education*, 9 (1): 71-83.

Xie, X. (1989a) The First Decade of China's Tertiary Radio and Television Education. In Xie, X. et al (eds) (1991) *Papers Presented at International Symposium on Distance Higher Education (Beijing, 1989)*. CRTVU Publishing House, pp. 5-14.

Xie, X (chief editor) (1989b) *China's Radio and TV Universities*, Beijing.

Xie, X. et al (eds) (1991) *Papers Presented at International Symposium on Distance Higher Education (Beijing, 1989)*. CRTVU Publishing House.

Zhao, Y. et al (1989) Approach to Standardisation of Making Audio-visual Teaching Programs. In Xie, X. et al (eds) (1991) *Papers Presented at International Symposium on Distance Higher Education (Beijing, 1989)*. CRTVU Publishing House, pp. 66-73.

Zhen, L (1995) A review of Nanjing Normal University Program of Examination for Self-Taught Students. *Open Learning*, 10 (2): 43-6.

Zhou, Y. (chief ed) (1990) *Education in contemporary China*. Prepared by the Central Educational Science Institute, Beijing for the Regional Office of Education in Asia and the Pacific, UNESCO. Changsha: Hunan Education Publishing House.

Bibliography in Chinese

3DHE of SEdC (1988) *Selected Documentaries on Correspondence and Evening Education of Regular Higher Education Institutions*. For reference inside only.

Cheng, Z. (1992) On the principles and ways of the cooperation between RTVUs and SEHEIS. *China TV University Education*, 1992 (6): 28-31.

CRTVU (1989a) *Selected Documentaries on Radio and TV Universities 1978-1988*. The CRTVU Publishing House, Beijing.

CRTVU (1991a) *The Essential Regulation on Working Out Educational Program and Curriculum of RTVUs' Short-cycle Courses Study*.

CRTVU (1991b) *The Working Regulation on Course Materials Construction of CRTVU*.

CRTVU (1991c) *The Working Regulation on Examination and Assignment of Nationally Launched Courses by CRTVU*.

CRTVU, (1993a) *Central Radio and TV University 1993*. Beijing.

CRTVU (1996) *The Opinions on Critical Issues in Reform and Development of RTVUs*. Beijing.

Deng, X. (1989) A recent speech. *Chinese Education Daily*, 11/4/1989: 1.

Ding, X. (1984a), Less input and more output -- an economic analysis of cost structure of China's RTVUs. *China TV University Education*, 1986 (7): 13-8.

Ding, X. (1984b) A strategic way of educating and training qualified personnel -- on the important role of RTVU education in the China's higher education system. *China TV University Education*, 1986 (8): 13-7.

Ding, X. (1986c) A New System of Distance Higher Education. *China TV University Education*, 1986 (11): 26-8.

Ding, X. (1986d) Three opinions on the issue of FLVs. *China TV University Education*, 1986 (1): 12-3.

Ding, X. (1988a) *An Introduction to Distance Higher Education*. CRTVU Press. Beijing.

Ding, X. (1988b) The printed materials in multi-media teaching of China's RTVUs. *China TV University Education*, 1988 (9): 26-30.

Ding, X. (1988c) The audio-visual materials of multi-media teaching of China's RTVUs. *China TV University Education*, 1988 (10): 26-30.

Ding, X. (ed) (1989a) *Distance higher education: worldwide perspectives*. CRTVU Publishing House, Beijing.

Ding, X. (1989b) The essential driving forces for historical development of distance education. *Education Research*, 1989 (12): 56-9, 64, Beijing.

Ding, X. (1990a) On multi-media teaching of China's RTVUs. Journal of Modern Distance Education, 1990 (3). Also in Li, F. et al (1990) *Papers on China's Distance Education*. CRTVU Publishing House pp. 209-21.

Ding, X. (1993) A Visiting Report on Australian Distance Education. *Modern Distance Education*, 1993 (1): 65-70, Harbin.

Ding, X. (1994d) Information superhighway, interactive multimedia, and distance education. *Modern Distance Education*, 1994 (3): 77-80.

Ding, X. et al (1984) A Recommendation Letter to the Top Leaders of Chinese Government and the CPC, with Three Paper Abstracts, October 1984, unpublished.

Ding, X. et al (1988a) *An introduction to distance higher education*. Beijing: CRTVU Publishing House.

Ding, X. et al (1988b) A survey report on undergraduates' learning methods and ways of RTVUs. *Research and Information*, edited by Institute of Distance Education, CRTVU, No. 2, 1988.

Ding, X. et al (1989a) *Design and evaluation of multi-media teaching materials*. CRTVU Publishing House.

Dong, C. (chief ed) (1985) *Chinese Great Encyclopedia: Education*. Beijing: the Chinese Great Encyclopedia Press.

Dong, M. (chief ed) (1990) *Research Papers on Post High School Education in China*. The Publication House of Workers and Staff Education.

Dong, Z. (1986) Make efforts in achieving five million enrolments in RTVUs. *China TV University Education*, 1986 (4): 8-9.

DPC of ME (1984) *Educational Achievements of China: Statistics (1949-1983)*. Beijing: People's Education Publishing House.

DPC of SEdC (1984, 1985, ..., 1995, 1996) *Education Statistics Yearbook of China*. Beijing: People's Education Publishing House.

Fang, Y. (1978) The speech at the First National Working Conference on Radio and TV Universities. On 3rd December, 1978, unpublished.

Gao, K (1990b) A exploration on establishing market mechanism for education, *Modern Distance Education*, 1990 (4): 14-7.

Han, J. (1996) Review of alienation in RTVUs education. *Open Education Research*, 1996 (1): 28-31.

Huang, Y. and Zhao, Y. (eds) (1990) Report on first trace study of graduates for China's RTVUs. *China's TV University Education*, 1990 (9): 13-48. (10): 42-48.

Jiao, W. (1992) The present situation and development of the Second Diploma Education in Beijing RTVU. *China TV University Education*, 1992 (9): 8-9

Kou, Z. (1990b) A exploration on the student source of RTVUs and its development. *China TV University Education*, 1990 (10): 21-4.

Li, F. et al (eds) (1990), *Papers on China's Distance Education (1979-1989)*. CRTVU Publishing House.

Li, T. (1992) A Speech at the Closed Session of National Working Conference on Adult Higher Education. *China Education Daily*, 15/8/1992: 1.

Liu, B. (1986) An investigation on RTVUS' work of FLVs. *China TV University Education*, 1986 (4): 39-43.

Ma, Y. & Yu, X. (1993) Effectiveness study on economies of scale for RTVUs. *Modern Distance Education*, 1993 (3): 21-4.

Ma Z. & Liu, H. (1990) A tentative discussion on the characteristics and quality of practical work in RTVUs' teaching. *China TV University Education*, 1990 (11): 7-11.

ME of SC (1981) The State Council approved the Report on Tentative Methods of SEHEIS by the Ministry of Education, *Educational Newsletter*, the Ministry of Education, 1981 (6).

Meng, F. & Wang, C. (1988) Making choice in competition and overtake. *China TV University Education*, 1988 (8): 27-8.

Niu, Z. (1993) Creating the new situation for non-diploma education. *China TV University Education*, 1993 (11): 3-7.

Pan, M (1986) *Lecture on higher education*. People's Education Press, Beijing.

Pan, M. (1992) A argument on educational external rule. *Education Research*, 1992 (10): 67-8.

Peng, C. (1987) On the Benefit of Radio and TV University. *Liaoning Higher Education Research*, 1988 (1). Also in Xie, X. et al (eds) (1991) *Papers Presented at International Symposium on Distance Higher Education (Beijing, 1989)*, CRTVU Publishing House, pp. 98-106.

Peng, C. (1989) The Revising Opinions Against 'The Outlines of Development and Reform for Chinese Education': A Letter to SEdC and the SC. 7/4/1989, unpublished.

Peng, C. (1991) How can education go beyond the dilemma in the case of educational investment having no remarkable increase? *Liaoning Higher Education Research*, 1991 (1): 1-9.

Qian, K. & Wang, S. (1993) RTVUs and Openness. *China TV University Education*, 1993 (9): 11-6

Qian, W. (1995) To solve several urgent issues in developing education effectively. *Journal of Public Opinions*, 1995 (3).

Qiao, B. (1984) *Enhancing the role and functions of electrification education in educational reform*. A report submitted to the Central Committee of CPC, 9th May, 1984.

Qiao, B. (1985) *A supplementary letter to the report on enhancing electrification education*. 17th March 1985.

SEdC (1986a) A notice on RTVUs to cease accepting the FLVs in this year. In CRTVU (1989a) *Selected Documentaries on Radio and TV Universities 1978-1988*. Beijing, p. 43.

SEdC (1986b) A notice on Conducting Recruitment Working for Various AHEIs in 1986. In CRTVU (1989a) *Selected Documentaries on Radio and TV Universities 1978-1988*. Beijing, pp. 116-8.

SEdC (1987a) *The Decision on Reforming and Developing Adult Education*. In 3DHE of SEdC (1988) *Selected Documentaries on Correspondence and Evening Education of Regular Higher Education Institutions*, pp. 17-29.

SEdC (1993) The Opinions on Reform and Development of Adult Higher Education. *China Education Daily*, 27/1/1993: 1.

SEdC (1995) *The Opinions for Carrying Out the Development Outlines of Chinese Education in RTVUs*.

SEdC & the Ministry of Finance (1986) A notice of Issuing the Regulations on Recruitment for Various AHEIs. In CRTVU (1989a) *Selected Documentaries on Radio and TV Universities 1978-1988*. Beijing, pp. 110-3.

SEdC, the State Planning Commission, and the Ministry of Finance (1986) A Notice on RTVUs Accepting School Leavers Through NUEE for RHEIs. In CRTVU (1989a) *Selected Documentaries on Radio and TV Universities 1978-1988*. Beijing, pp. 114-5.

Shan, C. (1996) Out of Errancy: Discussion on Chinese RTVU Education Facing the 21st Century. *Open Education Research*, 1996 (2): 37-41.

Shan, Y. & Pen, Z. (1987) A exploration of quality in experimental teaching at a distance. *China TV University Education*, 1987 (3): 9-11.

Sheng, Z. & Yang, J. (1986) A Tentative discussion on distance education and self-teaching mode. *China TV University Education*, 1987 (1): 27-32.

SSB (State Statistics Bureau) (1990) *China Population Statistics Yearbook 1990*. Science and Technology Documents Publishing House.

Tan, W. (1988) The feasibility of spare-time studies in RTVUs from a perspective of structural change of the student groups. *China TV University Education*, 1988 (3): 14-8.

Wang, S. W. (1989) A comparative study on China's RTVUE and SEHEIS. *China TV University Education*, 1989(1): 5-9.

Wang, X. (chief ed) (1989, 1990, 1991) *Statistics of China's Educational Outlay: 1989, 1990, 1991*. the Department of Finance, the State Education Commission.

Wang, Z. (1987) On face-to-face tutorials in RTVUs. China TV University Education, 1987 (3): 11-3.

Wen, F. (1991) Making RTVUs to be open universities. In Niu, Z. et al (eds) (1991) *Papers of the First National Conference on Distance Education Science of RTVUs*. CRTVU Publishing House, pp. 187-91.

Xiao, C. (1989) On the first decade of RTVUs. *China TV University Education*, 1989 (2): 5-9.

Xie, X. (1991) The opinions on teaching work of RTVUs. *China TV University Education*, 1991 (2): 8-16.

Xie, X. & Li, F. (eds) (1990a) *Annals of Education for China's RTVUs (1979-1988)*. Beijing: CRTVU Publishing House.

Xie, X. & Li, F. (1990b) A Survey Report on the Issues of RTVUs' Course Materials in Shichuang and Hubei. *China TV University Education*, 1990 (6): 20-5.

Xu, T. (1990) Openness of RTVUs and its response policies. *Modern Distance Education*, 1990 (3): 42-5.

Xue, S. (1988) Practice and Exploration of Continuing Education in RTVUs. *China TV University Education*, 1988 (5): 17-20.

Xue, S. (1990) On Non-diploma Education in RTVUs System. In Li, F. et al (eds) (1990) *Papers on China's Distance Education (1979-1989)*. CRTVU Publishing House, pp. 146-58.

Xue, T. (1987) A tentative discussion on the issue of FLVs in RTVUs. *China TV University Education*, 1987 (4): 6-9.

Yan, L. (1991) Radio and TV higher education should meet the needs of developing socialist commodity economy. In Niu, Z. et al (eds) (1991) *Papers of the First National Conference on Distance Education Science of RTVUs*, CRTVU Publishing House, pp. 64-70.

Yang, B. (1992) China's State Administered Examinations of Higher Education for Independent Study system - A New Form of Open Higher Education. Presented at the International Symposium on Self-Study Examination in Higher Education, Nanjing, China, 1992.

Yang, Y. & Zhang, X. (1988) A tentative analysis on the student source of RTVUs. *China TV University Education*, 1988 (11): 5-9.

Yunnan RTVU (1991) A Comprehensive Research Report on the Prediction of RTVUs Student Sources. *China TV University Education*, 1991 (11): 22-9

Zhang, D. (1987) The Reform and Self-Improvement of RTVUs. *China TV University Education*, 1987 (7): 21-31.

Zhang, H. (1991) Towards open and flexibility, actively and step by step. In Niu, Z. et al (eds) (1991) *Papers of the First National Conference on Distance Education Science of RTVUs*. CRTVU Publishing House, pp. 206-14.

Zhang, J. (1993) A tentative discussion on matching teaching organisation to the essential nature of educational system. *Modern Distance Education*, 1993 (1).

Zhang, J. (1994) The necessity of reforming RTVUs' teaching organisation. *Modern Distance Education*, 1994 (2): 37-8.

Zhang, J. & Duan, Y. (1992) Out of errancy of student source. *China TV University Education*, 1992 (8): 26-30.

Zhang, Q. (chief ed) (1991, 1992, ..., 1995) *Basic statistics of China's Radio and TV Universities (1990-1991, 1992, ..., 1995)*. The information team of CRTVU.

Zhang, V. (1990) *An Introduction to World Adult Education*. Beijing Publishing Howse.

Zhang, X. (1990) The important linkage from knowledge to competency, A research on graduate design/thesis in RTVUs. In Li, F. et al (eds) (1990) *Papers on China's Distance Education (1979-1989)*. CRTVU Publishing House, pp. 361-71.

Zhao, B. & Cai, Y. (1991) RTVUE must fit the needs of economic development in multi-dimensions. In Niu, Z. et al (eds) (1991) *Papers of the First National Conference on Distance Education Science of RTVUs*. CRTVU Publishing House, pp. 52-8.

Zhao, K. (1988) A tentative discussion on establishing a new mechanism of running radio and TV higher education. *China TV University Education*, 1988 (4): 5-9.

Zhe, Z. (1991) A exploration on the issue of student source in RTVUs. In Niu, Z. et al (eds) (1991) *Papers of the First National Conference on Distance Education Science of RTVUs*. CRTVU Publishing House, pp. 103-8.

Zhong, Z. (1990) Theory and methods of designing and editing the correspondence printed materials. *China TV University Education*, 1990 (3): 18-22.

Zhou, B. (1990) *China's education facing the 21st century -- state conditions, requirements, planning and policies.* The Educational Planning Office, the State Education Commission. Beijing: Higher Education Press.

Zhou, E. (1956) *A Selection on Education by Zhou Enlai.*

Zhou, S. et al (1990) On A Flexible Operational Mechanism for RTVUs. In Li, F. et al (eds) (1990) *Papers on China's Distance Education (1979-1989).* CRTVU Publishing House, pp. 102-12.

Zhou, X. (1996) Thinking on RTVU Education of Crossing-Century. *Open Education Research*, 1996 (2): 42-5.

Zhou, Z. (1989) Introducing the idea of market, Developing the RTVUE. *China TV University Education*, 1989 (3): 13-6.

Zhu, K. (1992) A Report at the National Working Conference on Adult Higher Education. August 1992, unpublished.